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ABSTRACT

The absence of systematic analyses and syntheses of data from hundreds of documents relating to compensatory education constitutes justification for a study unifying and evaluating already available information. Section One of this document introduces the need for such a study and discusses problems and procedures used in conducting and interpreting compensatory education evaluation research. Section Two delineates the status of compensatory education and Title I programs by citing major findings and conclusions from previous efforts, by representing findings graphically on a matrix and by summarizing major studies according to the following categories: academic skills, early childhood programs, affective development, parent and community involvement, staff training, overhaul of schools and school systems. Section Three elaborates on implications for evaluation research by considering exemplary studies of compensatory education, by analyzing survey and national assessment strategies and by proposing some answers to questions about the purpose, design, interpretation and policy determination for evaluation research. Abstracts of relevant literature and numerous programs plus a list of references are interspersed within the text. [Filmed from best available copy.] (WY)

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Utilizing Information from Evaluation, Research and Survey Data Concerning Compensatory Education

Section I: INTRODUCTION

A. The Need for the Study

Statement of Problem

The decade of the 1960's has been marked by tremendously increased concern for the education of underdeveloped segments of the population of the U.S.A. The enthusiasm and great expectations noted in many of the initial efforts at compensatory education are now balanced by impatience, sobriety, and some degree of pessimism. The problem has not subsided in response to a declared intent to attack it. The complexity of this problem became more clear when it became evident that simple changes in the quality of facilities, increase in the personnel assigned and services provided or modest shifts in curriculum emphases, did not effect significant improvements in the quality of learning. Educators are just beginning to realize that they confront tremendously complex problems when they seek to reverse the negative impacts of educational deprivation, social insulation, ethnic discrimination and economic deprivation. Increasingly, it is sensed that the problem is not simply pedagogical but involves all aspects of community life. At the same time that the breadth and complexity of the problem becomes clearer, it is also becoming evident that concern for this problem serves not only political and humanitarian purposes. The application of pedagogical concern, competence and skill to the improved education of the disadvantaged is forcing educators to give more serious attention to some of the basic problems of teaching and learning. Reduced to its essence, the crucial pedagogical problem involved is that of understanding the mechanisms of learning facility and learning dysfunction and applying this knowledge to the optimum development of a heterogeneous population characterized by differential backgrounds, opportunities, and patterns of intellectual and social function.

Research related to the education of the disadvantaged has covered a wide variety of approaches and issues. However, most of this work can be classified under two broad categories: the first of these might be called the study of population characteristics, and the second, the description and evaluation of programs and practices.

In contrast to the varied, detailed, and sometimes adequately designed research into population characteristics among disadvantaged groups, the examination of educational

programs and practices for children of such populations has too often been characterized by only superficial descriptions and evaluation. One would expect that the substantial research focused on population characteristics would be reflected in new treatments; however, there has been relatively little effort at relating development and treatment efforts to the population characteristics studied. Rather, treatments have tended to emerge from the special biases or dominant models in the field, with either the fact of intervention or the magnitude of intervention receiving more attention than the specific nature or quality of intervention. This tendency may account for the fact that much of the research referrable to treatment and programs is characterized by superficial description of program or practice and general evaluation of impact.

It is possible to identify more than two hundred documents which report program descriptions, program evaluations, surveys of programs or research studies related to compensatory education. There are several hundred reports of educational efforts sponsored under funds provided by Project Headstart and Title I of the Elementary and Secondary Education Act of 1965. In addition, the U. S. Office of Education has completed extensive surveys of the programs funded under Title I ESEA. In view of the amount and variety of these research, evaluation and survey efforts, along with the rapid development of this field and the critical need for guidance of future efforts, systematic analyses and syntheses of the data from these various sources are very much needed. The absence of such analyses and syntheses is the primary justification for this study and constitutes the purpose to which it is directed.

The main task of the study was that of carefully examining the literature, mining it for new insights and consolidating it in order to better direct educational policy as well as further research in this field. A special emphasis was given to the relationship between input variables and variables defining the program impact on pupils (output variables) and to identifying crucial variables and critical relationships among variables. However, when the status of work in this field is more closely examined, this emphasis, which sounds feasible, appears not only close to impossible to pursue, but, within the limits of what can be done with the data that presently exist, the emphasis almost seems useless, due to the inconclusive, uneven and contradictory nature of these data. Discrete relationships between variables simply cannot be determined from the data available. Most of the studies are not very good. Almost none have been designed in a fashion which is adequate to guide policy decision making. There are problems in the design and conduct of evaluation research and in the implementation of programs

which make synthesis and interpretation difficult if not impossible. These problems are not peculiar to compensatory educatior but may come to be more fully appreciated out of our efforts at evaluating compensatory education, and particularly out of these efforts at utilizing information from evaluation, research and survey data.

B. Problems in the Conduct and Interpretation of Compensatory Education Evaluation Research

1. Technical Problems of Research

The weaknesses in the application of evaluative research to compensatory education partially stem from the complex political and economic circumstances under which these programs were initiated and developed. Programs from their inception involved large expenditures, often guided by other than purely experimental educational concerns. More than $10 billion was invested in educating poor and minority-group children, from the combined efforts of foundations and local and federal governments. While the foundations pioneered relatively large attacks on the problems of educating the disadvantaged, some of these efforts unfortunately seemed also to reflect a desire to establish organizational leadership, a domain of action or a model program which could be identified with the funding organization. The federal programs that followed the earlier work of foundations were subject to a different set of pressures, especially larger political concerns. Federal programs were in part responses to rising demand for a social revolution for the improvement of human rights and the increased development of underprivileged populations. For a while, it seemed more important politically to act and be identified with the effort to do something than to act wisely. There was little time for planning, with large sums of money being spent,and with political objectives clearly the motive; "pork barrelling" and politically sensitive distribution of money naturally developed. In an effort at maintaining some semblance of responsible government, the executive branch began to press for evaluation data to "prove" favored programs successful and to provide the basis for reducing or eliminating unpopular activities. It is interesting that the legislature was not initially greatly concerned with evaluation. It was the executive branch that needed to immediately validate the impact of its actions in compensatory education.

In this context, it is easy to see that large expenditures hastily appropriated to new programs, political pressures for a change and a piece of the action, and the demand for

immediate proof of impact have complicated the evaluation of the effectiveness of these programs which were implemented and evaluated under the pressures of political urgency to act. Evans (Office of Education) and Schiller (Office of Economic Opportunity) discuss the pressures they were under while implementing and designing Head Start:

> Unfortunately, the political process is not orderly, scheduled, or rational. Crests of public and congressional support for social action programs often swell quickly and with little anticipation. Once legislation is enacted, the pressures on administrators for swift program implementation are intense. In these circumstances--which are the rule rather than the exception--pleas that the program should be implemented carefully, along the lines of a true experiment with random assignment of subjects so we can confidently evaluate the program's effectiveness, are bound to be ignored.

The results of such conditions were program and research designs based upon well intended but precipitious decisions. Often, when evaluations after the fact were attempted, it was discovered that the original design was less than adequate.

Quite apart from the problems related to the conditions under which programs were initiated are the problems of evaluative research in general. Here one often finds a low level of expertise and inadequately developed methods. The best educational research scientists often choose to work with basic problems in child development, learning, linguistics, etc., rather than evaluative research. Evaluative and field research have only recently gained in respect and demand among educators and the public. Consequently, high demand has been suddenly created in a field with insufficient expertise. Although many good research scientists were drawn into evaluation, they could not readily transfer their research competence to the new situation. Indeed, given their experience in controlled laboratory settings, the problems of evaluative and field research may have been more difficult for them than for some less experienced investigators.

In the conduct of evaluative research, one can distinguish three approaches or three levels of concern. The first attempts to discover whether or not a particular intervention program is an effective treatment; that is, whether or not developmental and learning processes are accelerated following application of a particular teaching method, curriculum, etc. This kind of evaluative research asks whether or not the intervention works. The second level of concern is comparative; one attempts to discover whether the intervention in question works better than other known methods. The third level is explanatory; one tries to describe and explain the

relationship between specific intervention methods, specific characteristics of the recipients of treatment, and specific associated changes in the behavior of the recipients. Most evaluative research has been directed at answering the first two questions. It is the third level question, however, which is the most important. In answer to questions on this level one is able to establish a rational basis for action and can begin to specify treatments in relation to known characteristics of the children to be served. In answer to third level questions the distinction between basic research and evaluative research collapses. The questions posed demand a quality of design which is appropriate to basic research but which can also serve the purposes of evaluation. Unfortunately, evaluative research of this quality has seldom been applied to compensatory education.

In all of these approaches, technical, operational problems create further difficulties. The closer compensatory education programs approach laboratory experimental conditions, the better one can discover what, how and why certain educational treatments alter educational underdevelopment. Yet, numerous obstacles stand in the way of establishing the necessary degree of precision and control in isolating variables and discovering the effectiveness of specific treatments.

One such obstacle involved difficulties in the utilization of an adequate method for selecting subjects. As Campbell and Erlebacher point out, "experimental" subjects are often not selected on a random basis. While the "control" group is selected to closely match the experimental group according to various indices, the control group is too often different from the experimental group in crucial aspects, although perhaps to a small degree. Without random selection of subjects, the results of a program may reflect differences in the development of two populations which are unrelated to the experimental treatment in question; in addition, matching procedures may produce regression artifacts. As for analysis of covariance and partial correlation, such biases may occur both where pretest scores are available and in after-the-fact studies. Campbell and Erlebacher propose true experiments in which randomization of subjects will avoid difficulties that previous quasi-experimental designs have encountered. However, parental objections, coupled with political pressures, have made large-scale application of random assignment of subjects impossible. Controlled comparative studies of this sort are often resisted by communities who will not accept arbitrary selection of subjects for experimentation when everyone wants the benefit of special treatment.

Another difficulty in establishing comparable experimental and control groups can be attributed to the influence of what has been called the radiation effect. Even if the two groups

are initially "comparable," the effect of experimentation on the experimental subjects is radiated onto their families, siblings and eventually onto the control subjects if there is any contact, direct or indirect, between these several groups. Susan Grey (1966) reported the confounding impact of preschool on the experimental children's families and even on other members of the community in which they lived. Reporting on the Early Training Project, Grey found that at the end of each school year the controls caught up to the gains made during the summer by the experimental groups. However, another control group in a town 60 miles away did not show such gains. In addition, untreated younger brothers and sisters of experimental subjects were observed to make unusual progress, no doubt as a result of the influence of the program on their parents or siblings (Kohlberg, 1966). Obviously, control subjects should be selected in a manner such that they can in no way be affected by the experimental treatment. However, this condition is increasingly difficult to maintain in large-scale field studies and demonstration projects.

In addition, investigators have discovered other effects that are associated with an intervention program, which again are not direct results of the treatment itself. Rosenthal (1968) reported that a teacher's expectations can have an important influence on the performance of students. Shephard (1964) reported a similar experience in the early stages of his work in St. Louis. Where the teacher's expectations of the child's performance is high, the child is likely to show better achievement than where expectations are low. Despite several criticisms of Rosenthal's work and difficulties in replicating his findings (see Fleming and Anttonen, 1971), there continues the strongly held view that expectations greatly influence performance. Consequently, in any compensatory education program, the expectations of the subjects' teachers may influence their subsequent performance. There is greater familiarity with the Hawthorne effect, in which the mere fact of experimentation or altered learning conditions may cause a temporary change in performance, unrelated to the specific intervention method applied. One can see that variables other than those identified for study may affect the results. In the evaluation of compensatory education, such interferences have not been identified or controlled for; hence, the real consequences of the various treatments cannot be determined from these studies.

There are still more problems referrable to evaluative research design which confuse, distort or limit the data as well as subsequent findings. Most evaluations of compensatory education studies tend to depend excessively on quantitative measures and static variables to the neglect of the process variables and the qualitative analysis of behavior, circumstances and conditions. This dependence on quantitative measures of

status to the neglect of qualitative study of process not only opens these works to questions related to the validity of the measurement instruments, it also ignores the growing appreciation of situational and transactional factors as determinants of function. The programs under study include and influence a wide variety of independent and dependent variables existing in complex interactions which are insufficiently accounted for in the more narrowly designed studies which have dominated the field so far.

This rather static approach to assessment has led to a heavy tendency to view pupil characteristics which differ from some presumed norm as negative, as well as to consider any correlation between these negative characteristics and learning dysfunction as support for a deficits theory of intervention. In practice, this has meant that all differences between the target populations and the standard group are viewed as deficits to be overcome rather than characteristics to be utilized and developed. What are investigated are relationships between stereotypical and fairly static input and output variables (usually isolated in pairs) with no attention given to what are known to be complex dialectic relationships between patterns of dependent variables and patterns of independent variables, many of which may be idiosyncratic to individuals and situations. These inadequate attempts at the assessment and treatment of pupil characteristics are often accompanied by an even less adequate appraisal of program variables. In practically all of the so-called national impact studies, and most of the efforts at evaluating specific programs, little or no attention is given to the fact that intervention treatment is uneven and control of the treatment almost nonexistent. When national impact data are pooled we could easily have results which show no effect when the effect of specified programs having positive impact is cancelled out by other programs studied which have had no positive effect. Even more serious is our growing conviction that individual pupils respond differentially to treatments. When mean changes in status are used as the indices to outcome, again we may have negative responders cancelling positive responders to indicate no effect when the treatment may be highly effective for specific individuals under specific circumstances.

2. Problems in Program Implementation

Public schools as social institutions have never been required to assume responsibility for their failures. Only recently have observers begun to view and describe objectively some of the horrors that are perpetuated in the name of public education. We are beginning to realize that we must come to grips with the problem of the utterly stultifying atmosphere of many classrooms, with the way in which rote learning and

repetition discourage real learning, and with the fact that discipline for discipline's sake serves the purpose of creating artificial order, but at the same time produces dull automatons instead of eager students, or turns the inmates of public schools against education to their lifelong detriment.

Even where extraordinary programs of compensatory education may have brought about some beneficial results, larger social factors may negate these results in the long run. Outside the classroom, disadvantaged children confront a society that is hostile to their healthy development. Learning in structured situations may be irrelevant in the context of their life outside the school. There is some evidence to suggest that ethnic, economic, or social integration does have beneficial effects on children whose background results in such school problems. Achievement levels have been shown to rise after desegregation in many schools, although the exact interplay of reactions leading to this result has not been conclusively determined. For example, improved teacher morale or other improved conditions brought about by the process of desegregation may result in an overall increase in the quality of education throughout the system. Other evidence points to the conclusion that integration on a social status group basis has beneficial effects for disadvantaged children when the majority of their peers in the school are from higher status groups. Even these results, however, are not sufficiently conclusive to provide a legitimate basis for large scale generalizations. In addition, the problem is further complicated by the new renaissance in cultural nationalism among ethnic minorities, a movement which affects any assumptions to be made about ethnic integration and education. In a society which has alternately pushed ethnic separation or ethnic amalgamation and which has never truly accepted cultural and ethnic pluralism, blacks, chicanos, Puerto Ricans, and native Americans are insisting that the traditional public school is guilty not only of intellectual and social but also of cultural genocide for their children. There are class and caste conflicts to which insufficient attention has been given in the organization and delivery of educational services. If cultural and ethnic identification are important components of the learning experience, to ignore or demean them is poor education, at best. And even if these factors are sufficiently taken into account in the school, we are far from having any guarantees that the society will honor such values outside the classroom. In short, it is not at all clear that intensive, short-term in-school treatment can counter the negative, external forces working upon disadvantaged populations.

The schools face a difficult challenge if they are to make learning an exciting and stimulating experience for all their students and to make what they have to offer relevant

and effective for students from all cultural and social backgrounds. However, even meeting these criteria will not be enough. Educators still face the problem of achieving a match between the developmental patterns, the learning styles, and the temperamental traits of individual learners and the educational experiences to which they are exposed. A great deal of attention has been given to differences in level of intellectual function. This concern is reflected in the heavy emphasis on intelligence testing and the placement, even "tracking," of pupils based on these tests. This tradition has emphasized quantitative measurement, description and prescription. These latter processes are clearly essential to the effective teaching of children who come to the schools with characteristics different from those of their teachers, as well as unlike those of the children to whom most teachers are accustomed. Research data indicate wide variations in patterns of intellectual and social function across and within sub-populations. These variations in function within privileged groups may be less important because of a variety of environmental factors which support adequate development and learning. Among disadvantaged populations where traditional forms of environmental support may be absent, attention to differential learning patterns may be crucial to adequate development and learning. Among disadvantaged populations where traditional forms of environmental support may be absent, attention to differential learning patterns may be crucial to adequate development. Understanding the role of one set of behaviors as facilitators of more comprehensive behaviors is at the heart of differential analysis of learner characteristics and differential design of learning experiences. Schooling for disadvantaged children--indeed, for all children in our schools--comes nowhere near meeting these implied criteria. Assessment technology has not seriously engaged the problem. Curriculum specialists are just beginning to face the task, in some of their work in individually prescribed learning.

The problems of social disadvantage in the society at large, and the failure of the schools to mold their practices to cultural differences and individual learning styles, are not the only obstacles to successful compensatory education. Social disadvantagement gives rise to a variety of harmful health and nutritional problems which militate against healthy development and adequate utilization of educational opportunities. It is becoming increasingly recognized that low income results in poor health care and frequent malnutrition; these disadvantages are related to high risks for the pregnant mother and fetus, and for the child after birth, in terms of mortality or maldevelopment. Poor health conditions may result in either a direct impairment of the nervous system or an indirect interference with the learning process as in low energy level or high level of distracti-

bility. Such health-related conditions probably have a crucial effect on school and general social adjustment. It has now been shown that impaired health or organic dysfunction can influence school attendance, learning efficiency, developmental rate as well as personality development. Clearly, adequacy of health status and adequacy of health care in our society are influenced by adequacy of income, leading to the obvious conclusion that poverty results in a number of conditions directly referrable to school success and to development in general.

It is clear that there are many problems to be faced in designing compensatory education programs. Such programs in the past have frequently been characterized by several lines of attack: intensive, structured programs in reading and mathematics; parent and community involvement; improvement of self-concept, motivation, and interest; and extra-curricular enrichment. In most cases, the effectiveness of the programs seems to depend upon careful planning, clear objectives, and intensity of treatment, attention to individual needs, home-based support for school-based learning activities and the presence of personnel committed to the pedagogical procedures prescribed. These characteristics seem to be more important than the specific curriculum strategy used. Where such factors are not evident, the results are often mixed or poor.

3. Problems Related to the Dialectical Relationship Between Personnel, Program and Situational Characteristics

Most evaluation efforts in this field have taken one or two input variables and looked at them in relationship to one output variable. Although this procedure has a respected history in research methodology, in the sphere of compensatory education the failure of the procedure to take into account a number of inputs--related to pupils and staff, program content, community, etc.--and the dialectical relationships between them render it an inappropriate procedure. Evaluation research which is sensitive to polynomic variable complexes is essential. None of the available studies meet this standard, and it is a demanding and difficult standard. Strategies for dealing with multiple-input variable complexes are suggested by methodology from the field of anthropology but strategies for similarly dealing with multiple-output variable complexes have not yet been established. It may be that the mechanisms of educational and social development are so idiosyncratic to individuals and so specific to circumstances that all effort at evaluating them must be based on assessment of specific individuals and their situations with conclusions for groups of individuals resting on the post-hoc grouping of findings rather than on the ad hoc grouping of populations, programs and data.

C. Procedures Utilized in this Study

The study which herein is reported is primarily an exercise in bibliographic research. No original data have been collected. The data of the study are those contained in evaluation and research documents produced over the past five to ten years with special attention given to the 1969 Elementary School Survey. The study consisted of three components which are outlined below.

1. Identification and review of (a) extant evaluation and research studies pertaining to compensatory education; (b) 1969 Elementary School Survey

   This component was undertaken with several purposes in mind. It was primarily organizational in nature and served as a foundation for the analysis and synthesis which followed. The tasks included in this component are:

   a. Development of a comprehensive annotated bibliography (Section IV of this report)

   b. Identification of dependent and independent variables (enumerated in the comprehensive matrix included in Section II)

   c. Classification of studies by population units studied, control over program provided, type of intervention, type of measurement instruments, and quality of research design. These and other attempts at classification proved relatively useless except for category of intervention (see Section II, C) and quality of research design (see Section III, A).

   d. Summary of major studies by category of intervention to reflect the findings of each study and the overall status of work in each category (see Section II, C).

   e. Identification and substantive summary of exemplary studies chosen for the high quality of research design and contribution to the field (see Section III, A).

2. Identification of critical relationships among variables

   This component focused on exploring and evaluating relationships existing among the variables included in the Office of Education Survey and the independent study data. Identification of such relationships reflects consideration of the major evaluation domains which are encompassed by the survey information as well as the most powerful instructional and program components which have been

identified by independent researchers and practitioners in this field. These relationships are graphically presented in the comprehensive matrix included in Section II, B. The following areas of interest reflect the emphasis that gave direction to this analysis.

a. To what extent the level of participation (hours per year) and the type of reading program participated in is associated with cognitive change, especially for (1) urban pupils who are educationally disadvantaged and (2) pupils who are educationally disadvantaged who live in rural areas and small towns.

b. To what extent level of participation (hours per year) in ancillary programs is associated with non-cognitive change, both social and personal, for (1) urban pupils who are educationally and/or socially disadvantaged, and (2) pupils who are educationally and/or socially disadvantaged who live in rural areas or small towns.

c. What combinations of ancillary services and academic programs yield the greatest cognitive and non-cognitive changes in (1) urban pupils who are educationally and socially disadvantaged and (2) pupils living in rural areas and small cities who are educationally and socially disadvantaged.

d. To what extent teacher characteristics (experience, training, attitude, interests) and teacher-pupil interactions are related to pupil behavior (interest attitudes, academic accomplishment, absenteeism, and interest in school) especially for: educationally disadvantaged pupils in (1) rural areas and small cities, and (2) large cities; and (a) senior high schools, (9-12), (b) junior high schools (7-9), (c) grade school (1-6).

e. To what extent approaches to classroom management have been utilized including the types of pupil responses required by teachers, the structure of classroom assignments and activities, and general teaching methodology related to pupil behavior and attitude including classroom attitude, pupil absenteeism, pupil interest, pupil achievement, and pupil personal and social changes.

f. What levels of concentrations of services and types of services (ancillary and academic) are needed for significant affective and cognitive gains of pupils in elementary and secondary schools:

(1)with high percentage of poor students

(2) with high percentage of black students
(3) with high percentage of educationally disadvantaged students

Elements included:

(1) instructional programs (type, intensity, duration)
(2) non-instructional programs (social, psychological, counseling services)
(3) out-of-school programs (work schedules, recreation, student-planned classes)
(4) selection of pupils for participation in special services

g. What variables not regularly considered in studies of compensatory education can be influential in determining the success of compensatory education programs? Such components include:

(1) pupil participation in instructional planning
(2) community participation in instructional planning
(3) non-certified instructional personnel in classrooms
(4) diversification of program offerings for disadvantaged pupils
(5) use of non-classroom facilities and other resources

3. Integrative Summary

The third project component attempts to synthesize the analysis of the research and evaluation data, and report on the current status of the field of compensatory education (see Section II, A). From the comparisons that have been made among the range of variables identified, an attempt is made to formulate specific recommendations with respect to research and evaluation efforts, including (a) identification of evaluation procedures in independent projects which must be considered in the design of compensatory education survey evaluation methodology, and (b) the development of variables, descriptors and program component categories which can be utilized for a more effective comparison of data obtained from Survey and independent sources.

D. Outline of the Report

Section I: Introduction

- A. The Need for the Study
- B. Problems in the Conduct and Interpretation of Compensatory Education Evaluation Research
- C. Procedures Utilized in this Study
- D. Outline of the Report

Section II: Status of Compensatory Education and Title I Programs

- A. Major Findings and Conclusions
- B. Graphic Representation of Findings
- C. Summary of Major Studies by Category
  1. Development of Specific Academic Skills
  2. Developmental Facilitation in Early Childhood
  3. Guiding and Utilizing the Affective Development of Children
  4. Involving Parents and the Community in the Learning Process
  5. Changing Staff Behavior Through Training
  6. Changing Schools and School Systems

Section III: Implications for Evaluation Research

- A. Exemplary Studies of Compensatory Education
- B. Survey and Other National Assessment Strategies
- C. Evaluation Research: Purpose, Design, Interpretation, Policy

Section IV: Annotated Bibliography

Section I: List of References

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Section II: STATUS OF COMPENSATORY EDUCATION AND TITLE I PROGRAMS

A. Major Findings and Conclusions

The review and analysis of the data from the 1968-69 Survey and some 200 evaluation and research reports concerned with Title I ESEA projects and a wide variety of compensatory education efforts has enabled us to pose several questions the answers to which speak to the Status of Compensatory Education in the U.S.A. in 1970. It is possible to indicate:

1. Who was reached by these programs;
2. What programs and practices were employed;
3. What has been the impact of these programs and practices on the children served; and
4. What combinations of input and outcome variables show promise of improving development in populations of disadvantaged school children.

1. Who Was Reached by These Programs?

During the school year 1969 and 1970 approximately 5.4 million public school pupils were assisted by ESEA Title I. Approximately 3.7 million pupils in a national sample were identified by their teachers as educationally disadvantaged. Of these, approximately 40% or 1.5 million were provided special assistance under the ESEA Title I program, which provides approximately eighty percent of the federal funds for education of disadvantaged pupils. However, the other sixty percent or approximately 2.2 million pupils who were identified by their teachers as educationally disadvantaged did not receive extra assistance through Title I. Of all the pupils assisted by ESEA Title I, approximately 27% of them were educationally disadvantaged, leading one group of investigators to conclude that substantial amounts of ESEA Title I funds are dispersed on other than educationally disadvantaged pupils.

In addition, the survey data reveal that those children attending school in districts where regular school expenditures were low continued, despite Title I funds, to have proportionately less spent for their education than children in more fortunate districts. This phenomenon is due both to the Title I allocation formula, which is partially based on the level of regular school expenditure from state and local funds, and to the tendency of low expenditure districts to disperse their Title I funds or services among a larger proportion of their pupils than do more wealthy districts.

The pupils served by ESEA Title I in grades 2, 4, and 6 in 1969 and 1970 were ethnically distributed as follows:

Black	33.0%
Spanish surnamed	8.8%
Indian	.8%
Oriental	.2%
Other	55.1%
Non response	2.2%
Total	100.0%

The pupils served by ESEA Title I in grades 2, 4, and 6 in school year 1968-69* were geographically distributed as follows:

Rural areas	37.3%
Suburbs	8.5%
Small city (Under 40,000)	29.3%
Middle Size City (40,000 - 500,000)	14.5%
Large City (500,000 and over)	10.4%
Total	100.0%

Moving from the survey data to other reports, it is difficult to be more specific or encouraging with respect to who was served. At the height of activity in Headstart, approximately 500,000 children were served in any one year. Of this number, about 150,000 were from non-disadvantaged (i.e. above the poverty level) families. Estimates indicate that in most communities the most severely depressed families were not consistently reached. In the several smaller population studies reviewed, it is often possible to identify ethnic background and investigator's estimate or determination that a low income group has been served but these data are not helpful in estimating the number of children served.

2. What Programs and Practices were Employed?

Infant Studies

Growing out of the assumptions that poor children tend to suffer deprivations early in life which are related to their subsequent depressed level of academic functioning, as well as from the research evidence which suggest that during the first three years of life the intellectual development of the child is most malleable, several programs designed to influence development in infancy have been developed. All of these programs seem to have resulted in some acceleration of development or at least the acquisition of additional behaviors. The maintenance of this acceleration and the contribution of the additional behaviors to subsequent development has not yet been established.

* This is the latest national data on geographic distribution that is available.

Interventions during infancy have included a variety of specific strategies. They generally emphasize, however, the following activities:

1. Perceptual stimulation and training ranging from enrichment of the crib environment and the engagement of the infant with objects in that environment to systematic training in perceptual discrimination and acumen.
2. Language and concept development and enrichment including verbal bombardment, labeling, playing games, reading to child, showing pictures, object permanence, conservation, and experiential enrichment with repetitious designations.
3. Social-emotional stimulation and support including adult to child attention, loving care, cuddling, body play, emotional warmth, developing trust, person-self identification and stable but varied routines.
4. Parental support for the infant's development through parent-training in relation to the above as well as through direct assistance to parents in improving their life conditions.

Preschool

Combining the long tradition of concern in the nursery school movement for socialization of the young child, the concern in day care for health and custodial protection, and the emerging concern with stimulation of cognitive development in the early years, the current preschool program has emerged as a multifaceted offering. Nonetheless, most of these programs for poor children have tended to emphasize cognitive development. The most extensive single effort has been that of Headstart, but many school districts have utilized Title I money to sponsor preschool programs. In general, the initial impact of these programs on children has been positive with gains rather consistently noted immediately following exposure to the experience but with wide variation in measures of effectiveness as the time between treatment and follow up measurement is extended. Few studies show achievement differences between experimental and control groups one or two years following intervention. As is indicated in chapters I and IV of this report, there are problems and factors other than effectiveness of program which may contribute to the essentially negative findings in long term follow up of preschool interventions. Programs extant tend to include various combinations of the following elements:

1. Enhancement of skill in symbolic representation and concept formation, with specific emphases ranging from language enrichment, language bombardment and labeling, to the use of language to ask and answer questions, contemplate past and future, to observe and discuss cause and effect relationships all designed to encourage abstract thought as opposed to mechanical language utilization; also utilized are listening centers, a variety of reading readiness materials, repeated exposure to elaborative rather than restrictive language structure and language games such as lotto.

2. Mastery of pre-academic and intellective tools with special emphasis given to language and arithmetic. In these programs, skills mastery is encouraged through small group instruction in which group chanting responses, individual and group repetition of words, sentences and numbers and the heavy use of positive and negative sanctions are used. Also included here are strategies emphasizing perceptual and sensory discrimination, development of attentional control and encouragement of task involvement.
3. Learning to learn or enhancing the ability to approach and solve problems. This strategy uses games and planned sequences of gamelike activities which range from motor manipulation through perceptual imagery to symbolic experience and their verbalization. The design of the program has been greatly influenced by Piagetian concepts.
4. Enhancement of self concept and confidence as an inquirer. Programs using these strategies give emphasis to individual attention, verbal reenforcement, high personal regard, experiences and materials focussed on personal and ethnic identity, trips, music and science experiences designed to stimulate curiosity and inquiry behavior, and high frequency of success experiences
5. Parent involvement and parent development. Practically all programs include some element of parent involvement either directly in the school experience or in active support of school learning in the home experience. Activities include parent meetings, parent volunteers or paid workers in the classroom, home visits, development of materials and sequences for parent use. In addition to these activities designed to involve the parent in the education of the child a wide variety of activities have been utilized in parent development, including social casework, vocational guidance, job placement, community organization, family assistance and health services all designed to strengthen the parent in the discharge of parental responsibilities.

Media and Technology

Television and computer assisted instruction are the two innovations concerning which there are data available concerning impact on pupil achievement and development. Although there have long been radio, newspaper and magazine efforts at education of young children, it was not until the Seseme Street TV series that a systematic effort was made at the evaluation of educational impact. Although the series was primarily directed at disadvantaged children, the data indicate that it was more effective in reaching somewhat more privileged children. In all children reached, however, the show was effective in getting across the knowledges and skills which were its purpose to teach. In addition, the greater the frequency of exposure, the greater was concept and skill mastery.

Of a variety of programs of computer assisted instructinn, most are

still in development stages. One set of programs in use is the Responsive Environment, colloquially known as the talking typewriter. With this device the pupil can initiate the presentation of a character or symbol complex which is simultaneously presented visually and auditorily or in either modality. The machine is designed to enable the learner with no knowledge of a particular language to learn both the spoken and written form of that language. Results in the use of this procedure are mixed. In general these results have been positive, however, speed of learning, reading and writing seem positively correlated with the maturity of the child's speaking-listening abilities. The procedure does not seem to hold great promise for disadvantaged children since children who begin with high scores and good standard speech do better than those who enter with lower scores and skills. It does appear, however, that the structured programmed approach including frequent and immediate feedback, combined with a 1:1 tutorial relationship, individual pacing and somewhat individualized programming seem to have some success.

Reading

A variety of programs have been developed with the principal focus on reading skills. Most common are those programs which promote an intensification or additional amount of reading instruction, generally by the use of specialists and special centers. Such efforts have resulted in varying degrees of success as measured by reading achievement scores. The range of techniques and materials is inclusive of strategies extant in this field. The more traditional and some new materials have been combined with cultural enrichment, peer tutoring, home instruction, computer assisted instruction, programmed learning and self concept enhancement procedures. The tightly structured programmed approach mentioned in the above paragraph has proven successful primarily in the area of reading. Programs oriented toward the affective development of the child as well as to his reading progress also appear to have positive outcomes.

Language and Communication

Although language development and communication are generally viewed as one component of a broader reading skills program, a few efforts have focused on this component Increased adult-child ratios in the classroom have been an essential aspect of such programs, enabling the child to receive more individual instruction and practice in speech and writing activities. Audiovisual materials and/or speech therapists are utilized in such programs. Few appropriate assessment instruments are available in this area. As a result, although gains have been indicated by secondary school youth on language tests and by younger children on verbal intelligence tests, further definitive statements regarding results in this area cannot be made at present.

Mathematics

Like language/communication, programs dealing with mathematics skill development usually contain other components, the reading-and-math combination being the most frequent. These efforts generally consist of increased time given to math instruction, often in small groups or individually, with no adaptations made in the approach to the subject matter. Moderate gains in math achievement have resulted from such programs. Those few programs which have experimented with innovative techniques such as gaming, discovery, and computer-assisted instruction appear to have resulted in larger gains in math achievement. There is some evidence which indicates that the greater student involvement necessary for the success of such programs has been an essential input with manifestations in other outcome areas, affective as well as cognitive.

Affective Development

Although no compensatory education programs beyond the preschool level are exclusively concerned with guiding the affective development of disadvantaged youth, almost all of them recognize the relationship between a student's motivation, attitudes, self concept or aspirations and his intellectual performance, and at least make a token gesture at offering affective support for his learning. Research on the learning pattern of the disadvantaged child indicates that in classrooms which systematically offer small reenforcement, he can gain the positive self concept and sense of personal control over his environment which appear to be crucial factors in his ability to achieve. Some researchers have maintained that the primary benefit of compensatory education would seem to be the intervention in the affective domain and that some of the success we attribute to various curricular and instructional strategies in producing intellectual and academic gains for the child really are a result of increased motivation or the acquisition of a realistic self concept.

The primary agent for bringing about positive affective change in the child seems to be clearly the teacher. Although there is some disagreement about the possibility of manipulating teachers' expectations of a child's performance, there seems to be little dispute about the importance of teachers' opinions and behaviors in creating a supportive classroom atmosphere for the child. It has also been found that these behaviors can be experimentally manipulated to produce desired behaviors from the child. A child's relationship with his peers, particularly in tutoring programs, can affect his academic performance. There is also evidence that the use of programmed materials with built-in rewards in a planned educational environment can result in greater motivation to learn and thus greater achievement gains.

Of all the interventions in the educational lives of the disadvantaged child, placement in a desegregated school has caused the greatest social and personal change. Minority group students tend to have more realistic

aspirations about their abilities and futures and make concrete decisions. More able students become more driven but at the same time more confident. Desegregation tends to challenge the stability of the self-concept of minority group students and has likely stimulated the movement toward multi-ethnic curriculum which has the promise of reenforcing the student's identity in an interracial classroom.

Parental/Community Involvement

Despite research indicating the positive effect which parental involvement in the school has on the child's development, very few programs in compensatory education have attempted to include this as a significant aspect of the program, and only one of the reports studied discussed a program which attempted to institute genuine community control. Several preschool and elementary school programs have attempted to educate parents and involve them in support of learning as well as involving them in the school. While there are examples to show that parent education can lead to positive behavioral adaptations, there is a dearth of evaluation data in this area, either test results or descriptive data. One exception is the evaluation of an Indian Community School indicating that while the school has become more closely linked to the community, community administrative participation has been token. The limited information available on a community-controlled school is of a cautiously positive nature.

Staff Training

As was pointed out in the discussion of affective development, teacher attitudes and behavior are crucial in improving the education of disadvantaged children. Despite general agreement on this matter, efforts in the area are not extensive. Summer institutes, in-service training and teacher-training programs have utilized a number of techniques which attempt to improve teaching methods and, increasingly, to change the psychosocial behavior of teachers. Substantive evaluative data on such programs is virtually nonexistent with a few exceptions in the teacher-training area. Pre-service training programs show the most promise due largely to the longer duration of the project.

3. What has been the Impact of these Programs and Practices on the Children Served?

From the data of the 1968-69 survey, it is possible to make some general estimates.

1. Participants in the compensatory programs continued to show declines in average yearly achievement in comparison to non-participants who included disadvantaged and non-disadvantaged pupils. This of course makes the comparison inappropriate for most purposes. It is not possible from these data to determine whether participants in compensatory programs showed a reduced decline in average yearly achievement.
2. The data suggest that pupils in the lowest achievement levels have shown some slight benefit associated with participation in compensatory education programs. It is not clear, however, whether this represents a regression toward the mean or is reflective of their response to improved conditions of schooling as reported by Coleman. In his report, "Equality of Educational Opportunity", Coleman concluded that disadvantaged children are more significantly influenced by quality of schooling than are more privileged children. In both instances the achievement patterns are probably associated with regression effects, quality of schooling and actual room for growth in achievement in relation to the ceilings imposed by the learning experience.
3. Teacher estimates of academic achievement for participants show significantly greater results than do test results. They also found desirable social growth more often in participants than in non-participants. These survey findings are consistent with other studies which in general show teacher's subjective judgements re improvement more favorable than objective tests and also show positive estimates of change in the affective domain.

As has been indicated, the evaluation, research and survey data referrable to compensatory education and Title I ESEA do not lend themselves to easy identification of specific input variables whose relations to specific output variables can be determined. Rather what we have are complexes of treatment variables which investigators have studied in relation to aspects of pupil response which may be called the dependent variables. However, if a variety of patterns of reading instruction, fairly loosely described in the literature, can be called input variables (we prefer to call these variable complexes) it is possible to report that some of these variables complexes are rather consistently associated with gains in achievement at levels which are statistically significant. The Hartford Intensive Reading Instructional Teams; the Milwaukee Elementary Reading Centers; the Milwaukee Token Reenforcement Program; the Detroit Communication Skills Center Project; and the Indianapolis Programmed Tutorial Reading Project are examples of such cases. Other examples include what may be described as intensive efforts at instruction involving systematic and repeated exposure to structured learning

experiences, usually over a period of 2½ to 8 months. In general it seems clear that the tightly structured programmed approach including frequent and immediate feedback to the pupil, combined with a tutorial relationship, individual pacing and somewhat individualized programming are positively associated with accelerated pupil achievement.

In contrast to these intensive and highly structured programs are several which are more global, less intensive and appear to give greater attention to the social and affective conditions of learning even while they concentrate on specific skills. The Malabar Reading Program; the Finley School Program and the More Effective Schools Program are examples. The evaluation results in these cases are less definitive but are positive. Achievement levels of pupils exposed to these programs for one year or more reflect gains most of which are statistically significant with respect to academic achievement patterns. Available data do not permit firm conclusions with respect to affective development although gains in the social-emotional area are strongly asserted. These programs which depend heavily on individualized instruction, independent learning, the development of positive self image and active parent support for learning are generally associated with gains in pupil achievement.

There are several preschool programs which show positive results. Although the large scale, national impact studies are hard to interpret, it is possible to discern clear trends in these data when the smaller, more carefully controlled studies are reviewed. These studies indicate that a wide variety of preschool practices are associated with immediate to long term gains in the developmental patterns of children served. Since all of these studies have given more attention to pretest and posttest scores than to analysis of program characteristics, it is difficult to discuss optimal intervention strategies. In one of the few serious attempts at comparative study of treatments, Weikart concluded that: "The choice of a curriculum framework is only of minor importance as long as one is selected. ... Either the mechanical application of a specific curriculum or the busy concern with administrative procedure that any program entails will doom a project to failure... The process of creating and the creative application of a curriculum, not the particular curriculum selected or developed, is what is essential to success". The evidence from several studies seems to support conclusions that the crucial elements in effective programs are (1) the human involvement of concerned staff, (2) learning experiences that reflect the special characteristics and needs of the individual learner, (3) interaction of more experienced persons (adults) with less experienced (children) on an individual or small group basis, (4) time for teachers to reflect on and plan for the individual pupils for whom they are responsible, (5) a systematic approach to the provision of directed learning and (6) support in the home for the school based learning experiences of children.

Although it seems clear that systematic programs of education directed at the development of specific or general skills can be highly effective,

it is not clear that the crucial elements are order, system, and individual attention. It is consistently alleged by some that the contribution of these elements to the affective climate and conditions of learning are the critical factors. Despite our inability to give definitive specification to those variables which constitute the affective conditions associated with positive outcomes, the data of several studies clearly support the conclusion that affective support is a crucial variable in the learning of a disadvantaged child. Of the several factors associated with achievement in school, Coleman and his coworkers (1966) found that sense of control over ones environment accounted for more of the variation in achievement than all other factors save family background. Where sense of control is high, achievement in school is high and where sense of control is low, achievement is low. This relationship was found to hold for blacks and whites, for rich and poor. Sources of this sense of control have not been systematically studied but the Coleman data also indicated that for the population studied, the experience of schooling in integrated settings was associated with a high sense of control for black pupils. Additional support for the importance of the affective domain is found in the work of Zigler and Butterworth (1968) who have clearly demonstrated the basis in changed affective components for changes in level of test score. Their research indicates that without any discernable shift in the nature of cognitive function and without intervention of a cognitive nature, significant shifts in the level of intellective function can be achieved through the modification of motivation, task involvement and affective state. A number of related studies provide similar though less convincing evidence. They include studies of achievers and non-achievers with difference in affect being the major associated difference between the two groups. A variety of reenforcement studies make the same point. When learners find the learning experience or the result of the experience rewarding, achievement is higher. In fact, the single most consistently effective strategy for the achievement of mastery of a specific behavior or skill is that based upon the analysis of learner behavior and contingency management resulting in consistent rewards for appropriate behavior. By no means unrelated to this phenomenon is the utilization of peers as models or tutors. In a variety of programs utilizing peers, it seems clear that the reenforcement provided by peer approval or the meeting of peer norms is a powerful tool for influencing pupil achievement.

The concern with affective development is not unrelated to the age old concern with the development of more effective communication between parents, community and the school or the comtemporary concerns with "parent participation" and "community control". Parent and community involvement in the school are presumed to make schooling more congruent with the lives of pupils as well as to insure support in the broader life experience for the activities of the school. The latter may be instrumental in reenforcing specific learning, both are thought to influence the attitudes of children toward schooling. The data indicate that the children of parents who are more intimately involved in school show heightened self concept and more significantly superior academic

progress. In her annual review of compensatory education programs, Jablonsky concluded that "schools which have open doors to parents and community members have greater success in educating children". In the review of research related to decentralization and community participation, Lopate and others have concluded, "investigations of the effects of participatory decision making in creating positive changes in the affective and instrumental behavior of the participants consistently demonstrate the importance of actively involving individuals in decisions which affect them. ... Educational research indicates that when parents of school children are involved in the process of education, their children are likely to achieve better."

It is difficult to draw meaningful conclusions from the data on efforts at changing staff behavior through training or from the polemical literature on changing schools and school systems. Although no strategy or content for training emerges as exemplary from the training literature, from research on program it does appear that the goals of training need to focus on staff member (1) use of self as a facilitator and reinforcer of learning; (2) planning for consistency and flexibility in management of learning experiences; (3) utilization of indigenous human and other resources to encourage and support learning; and (4) utilization of pupil and environment assessment data to plan the developmental experiences of individuals and groups. How these goals are best achieved in training is not clear, but evidence mounts in support of an association between the presence of such characteristics in the behavior of staff and improved achievement and adjustment for pupils. As for changes in schools and systems, experience so far is more apparent than real, more symbolic than concrete, and too new for there to be good data from which to draw conclusions. Nonetheless, the weight of the arguments tips the balance toward the conclusion that schooling is out of phase with the changing needs of those we would school. The manner in which schooling must be changed is the focus of the debate.

B. Graphic Representation of Findings

Introduction

A central task of this study was to have been the identification and graphic representation of relationships between a variety of dependent and independent variables referable to Title I and compensatory education efforts. Considerable effort was expended at trying to identify and specify the variables which have been subjected to investigation. Although this task proved to be difficult because of the wide variation in the way terms are used, programs are designed and outcomes are measured or neglected, the task of utilizing those identifications and specifications to determine relationships and to graphically represent definitive relationships proved impossible. It is the nature and quality of the data available that has thwarted these attempts. There is little to no standardization in the conception or definition of the variables utilized in the many studies reviewed. Variables may be assigned to categories according to generally agreed to meanings but the substantive characteristics of the variable are inconstant across programs, situations and pupils. Hence, guidance, or reading or parent involvement are referred to in numerous programs but have different meanings in each. Or reading score, intelligence level, effect on parents may be identified as common dependent variables but with each having specifications idiosyncratic to the study or situation in which it is used. In addition, less than one tenth of the reports studied were based on research designs which meet criteria for hypothesis testing experiments, in which isolated variables were studied for possible interactive relationships. Nearly all the studies include multiple treatment variables and a few dependent variables, with no serious effort directed at determining which specific independent variable or combinations of variables account for the association with a specific dependent variable or variable complex. Because of these several factors the problem of graphically representing these nebulous relationships in other than simplistic and possibly misleading form has not been solved.

A simple program matrix has been produced in which categories of program input variables are listed on the vertical and categories of outcome variables are listed on the horizontal. An identifying number for each study is charted in the cells where independent and dependent variables intercept. Column one of the matrix is reserved for those studies where the independent variable is associated with no measured difference. The remaining vertical columns include cells in which studies showing differences associated with categories or treatment are identified. Studies showing significant differences at the .05 level are identified by placement above the diagonal. The matrix referred to represents graphically 62 programs. The data on these programs were reported in a manner which enabled the staff to identify independent and dependent variables, and in most instances these data were dealt with statistically. A casual study of this matrix reveals that it is not a useful aid in identifying crucial relationships between specific variables. By no means are all the variables which may have relevance for effective compensatory education listed. Nor are those which are identified, indicated in sufficient detail to be useful in directing policy and program planning. In fact, some

of the most important findings and conclusions which can be drawn from the data and reports studied simply can not be graphically represented in this matrix. The matrix can be useful, however, in determining those categories of variables with which much or little work has been done. It can provide some suggestive leads for concentrating future and more definitive study. It can be used to identify complexes of input variables and complexes of outcome variables which show promise of association. The bibliography which follows the matrix includes annotated references to the programs included in the matrix. These and other studies are discussed in summary fashion in section IIC of the report.

IDENTIFICATION AND DEFINITION OF INDEPENDENT VARIABLES UTILIZED IN PROGRAM MATRIX

1. General learning and problem-solving skills - refers to skills general enough to be applied in all or several areas rather than to specific subject matter. Includes "learning to learn," study skills, classification, general concept formation.

2. Grouping patterns - includes grouping on an SES, ethnic or age basis as well as on the basis of academic achievement.

3. Increased adult-child ratio - includes aides and volunteers as well as regular teachers.

4. Innovative materials and curriculum - programs which had materials or curricula particularly developed or packaged for the program.

5. Language and communication skills - includes pre-school through high school; oral expression, grammar, spelling, composition (excludes reading).

6. Math skills

7. Motivation - techniques used to motivate children to perform academically including internal and external motivation, positive and negative motivation and future goal orientation.

8. Parent education and/or involvement - including parental visits to classroom and parental teaching at home as well as community involvement.

9. Peer relationships - includes peer tutoring, friendship, role models.

10. Reading skills development

11. Staff skills development - includes in-service training, sensitivity training.

12. Affective development - includes self-concept, self-image, attitude toward learning (does not include motivation).

13. Cultural enrichment - includes trips out to museums, plays, etc. and bringing in art, dance, etc. to the learning environment.

14. Diagnosis of learning deficits - any effort at the identification of deficits that may interfere with learning.

15. Headstart, Montessori, Sesame Street - these are placed together at present because each program contains a unique combination of methodology inputs not usefully broken down into individual inputs.

16. Use of paraprofessionals

17. Motor development - gross motor development

18. Psychological support services and guidance

19. Hardware, teaching machinery - includes audiovisual materials, programmed materials, and media as well as techniques associated with the use of this material.

20. Specialists - subject specialists

21. Residential - programs where the child "lives in" at the educational institution.

22. Support services - a more multi-faceted approach than No. 18 above, includes work with the family, the milieu, etc.

23. Teacher planning time - increased free time given teachers during school day

24. Teacher expectations - this category encompasses studies of the "pygmalion" effect

IDENTIFICATION AND DEFINITION OF DEPENDENT VARIABLES

UTILIZED IN PROGRAM MATRIX

1. General intelligence - any test that gives an IQ or mental age measure such as the Stanford-Binet, the WISC, the WPPSI, the DAT.

2. Verbal intelligence - includes tests such as the ITPA, the Peabody Picture Vocabulary Test, verbal section of the WISC.

3. Language achievement - tests of English ability.

4. Reading achievement - tests of reading ability.

5. Math achievement - tests of math ability.

6. Attitude toward self - includes tests of self-concept, anxiety, and attitudes.

7. Effect on parents - includes improved attitude toward school or education, improved family health, etc., greater involvement in school.

8. Level of aspiration - increased orientation toward academic, vocational, social and personal goals.

9. Learning style - reflective or impulsive (this category may be expanded to include other approaches to learning in which the child may show changes.)

KEY TO PROGRAM MATRIX

Numbers above the diagonal line - statistically significant at .05 level.
Numbers below the diagonal line - test results not at .05 level or data in test score form with no test of significance applied (significant in the colloquial sense).

8^a - includes differential aptitude test
18^a - re tutees
18^b - re tutors
22^a - as evaluated by Fox
22^b - as evaluated by Forlano et. al.
31^a - re mothers' self-esteem
34^a - re self-concept
35^a - re children in program one year
35^b - re children in program two years
38^a - Head Start children attending full-year now in 1st grade
38^b - No difference found on Stanford Achievement for fall and summer. Head Start children now in 2nd grade; no difference on ITPA for Head Start children in grades 1 and 2; no difference found in Head Start children in grades 1 and 2 on self concept.
39^a - re 2nd graders
39^b - re 5th graders
39^c - re 5th graders' self concept and school attitudes
39^d - re 2nd graders' arithmetic achievement
40^a - includes anxiety measure
40^b - general intelligence (Otis)
40^c - language achievement
42^a - no difference for K on PPVT in '68 evaluation; no difference for 2nd grade on reading in '68 evaluation; no difference for K on reading for '69 evaluation.
42^b - re 1st graders on '68 and '69 evaluation
42^c - re 8th and 10th graders on '68 evaluation
44A, 44B, 44C refer to different programs within a city wide program
$44A^a$ - verbal and non-verbal intelligence
$44A^b$ - arithmetic achievement
45^a - verbal intelligence (Otis)
50^a - re motor development
57^a - controls did better on Cattell Infant Intelligence Scale than did experimentals

	MEASURED, NO DIFFERENCE	GENERAL INTELLIGENCE	VERBAL INTELLIGENCE	LANGUAGE ACHIEVEMENT
GENERAL LEARNING & PROBLEM-SOLVING SKILLS	31[a] 34[a] 45 50 57[a]	5 8[a] 11 [illegible] 31 3 53 54 55 57 53 34 45 47 54 57	5 53 47 56 58 34 47 50 34	15 6 50 17
GROUPING PATTERNS	34[a] 35[b] 40[a,b]	5 8[a] 34 33 3 35	5 32 34 3 34	3 60
INCREASED ADULT-CHILD RATIO	12 34[a] 44A 50[a] 22[a]	1 7 14 34 50 54 51 54	1 34 44B 3 34 50	3 13 44A 60 12 50
INNOVATIVE MATERIALS & CURRICULUM		1 5 8[a] 11 36	1 5	60 6
LANGUAGE AND COMMUNICATION SKILLS	12 40[b,c] 45 50[a] 57[a]	1 5 7 8[a] 11 45 50 53 54 56 57 45 54 57	1 5 53 56 3 50	3 27 6 12 50
MATH SKILLS	40[b,c] 46	5, 8[a] 11	5 3	3
MOTIVATION	34[a]	34 59 33 36	34 34 59	
PARENT EDUCATION AND/OR INVOLVEMENT	3 31[a] 42[a] 34 45[a]	5 7 31 34 45 55 45	5 34 9 34	13 15 6
PEER RELATIONSHIPS	39[c] 39[d]	14		39[b]
READING SKILLS DEVELOPMENT	40[a,b] 42[a] 37	8[a] 11 59	44B 3 59	3 6
STAFF SKILLS DEVELOPMENT	31[a] 42[a] 50	5 7 14 31 50	5 9 50	50
AFFECTIVE DEVELOPMENT	34[a]	16 34	34 34	16
CULTURAL ENRICHMENT		7, 8[a] 33	9	15
DIAGNOSIS OF LEARNING DEFICITS		16		16
HEADSTART/MONTESSORI/ SESAME STREET	35[b] 38[b]	35[a]		
PARAPROFESSIONALS UTILIZED	3 31[a] 42	7 31 54	9 59	13
MOTOR DEVELOPMENT		16		16
PSYCHOLOGICAL SUPPORT SERVICES & GUIDANCE	61	8a		
TEACHING MACHINERY, HARDWARE	42[a] 46			
SPECIALISTS	44A 22a	8[a]	27, 44A	19 44A 27 3 4
RESIDENTIAL	40[a,b]	8[a] 36		
SUPPORT SERVICES	32	33		
TEACHER PLANNING TIME	22a	1 5	1 5	
TEACHER EXPECTATIONS		26		

MATRIX

READING ACHIEVEMENT	MATH ACHIEVEMENT	ATTITUDE TOWARD SELF	EFFECT ON PARENTS	LEVEL OF ASPIRATION	LEARNING STYLE
6 15 20 34	15 17	8,50			62
3 32 22b 10 29 34 60	3 60 10 29 22b	8 40			34
1 3 20 30 44A 2 4 10 34 60	3 30 60 2 10	50			34
1 6 21 36 60	60	8 21			62
1 3 6	3	8 40a 50 40		40	
3 43 46 39 43 46	3 43 46 2 10 29 43	8 40a 40		40	
18a 30 59 18b 34 36 59	30				34 52 49
6 15 24 30 4 41 18a 39a 18b 25	15 30 39b				34
3 6 19 20 24 30 42a 43 43 59 37 2 4a 10 13 25 28 42a	3 37 43 29 43	8 40a 40 50	24 31	40	34 34
4,10 42b 15 4	10 15	8	31		34
38a 43 28 43 42a 59 4 29 42b 59	43 43 29		31		
42a 46 43 42b 43 46 2 22b 36	43 46 43 8 22b	8 8,40a 40		40	
1 22b	22b				

PROGRAMS INCLUDED ON THE MATRIX

1. U.S. Office of Education, Washington, D.C. Division of Compensatory Education. Language Stimulation Program, Auburn, Alabama. One of a Series of Successful Compensatory Education Programs. 1969. 15p. ED 038 480

This program provided small groups of educationally disadvantaged children with language stimulation in an attempt increase IQ and language ability. The children were all Ne irst-graders, ranging in age from six years one month to eight years two months, enrolled in the only elementary school in Auburn with all-Negro students. The curriculum of the program consisted of the experimental edition of the Peabody Language Development Kit, supplemented by stories used to stimulate the children's language development. Activities emphasized story-making, classifying, following directions, looking, counting, describing, and remembering. The language stimulation lessons lasted ten weeks during the 1964-65 school year. The results of a battery of tests indicated statistically significant gains of the program children over the control group in intellectual and language development, and in reading skills. These tests were made over a year and a half later when the children were in third grade. A third posttest was administered when pupils were in the fourth grade. Data are held to indicate that, nearly three years after the end of treatment, the program children had maintained their superiority over the control children. Tables and charts illustrative of the test data are included.

2. U.S. Office of Education, Washington, D.C. Division of Compensatory Education. Afternoon Remedial and Enrichment Program, Buffalo, New York. One of a Series of Successful Compensatory Education Programs. 1969. 13p. ED 038 468

This afternoon remedial and enrichment program was offered to inner-city low income children (grades 3-8). About 75 percent of the children were black, 20 percent white and five percent Puerto Rican. Remedial instruction was offered in reading and mathematics. Average class size was six pupils; these small groups allowed for better diagnosis of needs and individualized instruction. Enrichment teachers taught classes in art, music, industrial arts, and physical education. Children's gains were measured by the California Reading Test and the California Arithmetic Test (Forms W and X) in 1966-67. No test data were collected in 1967-68 and 1968-69. Test scores for 1966-67 showed, however, that pupils achieved a mean gain of five months in reading achievement and six months in arithmetic during the five months between testings.

3. U.S. Office of Education, Washington, D.C. Division of Compensatory Education. The Ameliorative Preschool Program, Champaign, Illinois. One of a Series of Successful Compensatory Education Programs. 1969. 12p. ED 038 469

This preschool program offered a highly structured curriculum in which language development was fostered through encouraging verbal responses in a game format context. The curriculum, based on skills and concepts required for success in elementary school, included language arts, reading readiness, mathematical concepts, science, and social studies. Small instructional groups of five pupils allowed the teacher to correct or reinforce verbal responses immediately. Directed play periods stressed visual-motor activities such as puzzles, blocks, clay, nesting and stacking toys, and pounding sets. Drawn from economically depressed neighborhoods, two-thirds of the pupils were black and the remainder Caucasian. The results of six standardized tests administered at the end of the first grade showed that project pupils performed better than comparable pupils who had attended a traditional preschool. The program pupils, furthermore, scored well above grade level on the California Achievement Tests in reading, language, and arithmetic. Tables showing test data, and examples of specific activities used in the program are also included.

4. U.S. Office of Education, Washington, D.C. Division of Compensatory Education. Augmented Reading Project, Pomona, California. One of a Series of Successful Compensatory Education Programs. 1969. 16p. ED 038 470

This program provided corrective reading instruction for disadvantaged pupils (grades 1-3) from black, Mexican-American and Anglo low income families. Instruction was provided for small groups (three to six pupils) by remedial reading teachers, one teacher being shared by two schools. The program also included the assistance of classroom aides, psychologists, and counselors, and the use of special instructional materials and cultural enrichment activities. An in-service training program designed for all project personnel aimed to acquaint staff with the special problems of disadvantaged students. The Wide Range Achievement Test was used in 1966-67 to measure gains, which averaged nine months. Time between testings was about six months. In 1967-68 students gained an average four and one-half months in a period of just under four months between testings. Lists of special instructional materials and tables showing test result data are included.

5. U.S. Office of Education, Washington, D.C. Division of Compensatory Education. Learning to Learn Program, Jacksonville, Florida. One of a Series of Successful Compensatory Education Programs. 1969. 28p. ED 038 472

The kindergarten Learning to Learn Program was designed to help children acquire flexible strategies for dealing with challenges and problems. The pupils in both experimental and control groups were from a low income black neighborhood. The program was organized around a carefully planned sequence of language and mathematical games and game-like activities; special teaching methods guaranteed success to each child. Through a sequence of planned experiences, the curriculum allowed children to move from motor manipulation to the building of perceptual imagery to symbolic experiences through the medium of interesting and challenging games and game-like activities. Teachers and teacher aides were trained in an intensive in-service training program to become child-oriented rather than content-oriented. Flexibility in grouping and parent participation were important factors. Sequence charts for language and mathematical games along with related activities are included. Results of the Stanford-Binet Form L-M, Peabody Picture Vocabulary Test, and the Illinois Test of Psycholinguistic Abilities are given. Charts show comparative gains of experimental and control groups.

6. U.S. Office of Education, Washington, D.C. Division of Compensatory Education. Malabar Reading Program for Mexican-American Children, Los Angeles, California. One of a Series of Successful Compensatory Education Programs. 1969. 26p. ED 038 473

This program attempted to raise the reading levels of Mexican-American children (prekindergarten through grade three) through individualized instruction, self-instruction, curriculum change, parent participation, and cultural activities. It was assumed that children would become capable of self-regulating learning behavior only when they had learned to organize their cognitive field; thus, the search for structure was to proceed in the development of both reading and oral language skills. The five major aspects of the instruction are presented in tabular format. Tables include summaries of activities related to writing, phonics, word discrimination, comprehension, and self-regulatory, self-instructing behavior and anticipated concomitant changes in self-concept for each level. Self-teaching materials are described. The Stanford Reading Test was the principal measure of achievement. Tables giving analyses of data are included.

7. U.S. Office of Education, Washington, D.C. Division of Compensatory Education. The Preschool Program, Oakland, California. One of a Series of Successful Compensatory Education Programs. 1969. 17p. ED 038 475

This program aimed to help disadvantaged children enter kindergarten by giving them preschool experiences which were mainly designed to augment conceptual and cognitive development. The pupils, drawn from an economically depressed area, were mostly black three- and four-year-old children. In addition to augmenting conceptual and cognitive development, the program emphasized stimulation of interest and curiosity, improvement of language skills, social-emotional adjustment, school-parent understanding, detection and remediation of physical defects and problems, and preservice and inservice training for teachers. Examples of specific lessons are given. Children's gains were measured by the Pictorial Test of Intelligence. Tables giving test data are included.

8. U.S. Office of Education, Washington, D.C. Division of Compensatory Education. Summer Upward Bound, Terre Haute, Indiana. One of a Series of Successful Compensatory Education Programs. 1969. 18p. ED 038 477

Upward Bound was a precollege program geared for high school students with potential who had been handicapped by economic, cultural, and educational deprivation. It involved a full-time summer program and follow-up programs (counseling, cultural activities, and physical education) during the academic year. Students stayed in the program for three consecutive summers and were instructed in language arts, mathematics, study methods and techniques, and perceptual skills. Academic skills were stressed to encourage an enduring desire to pursue a college education or some kind of post secondary school training. Curriculum and teaching methods are generally described along with specific examples of word games, dictating exercises, and language study units.

9. U.S. Office of Education, Washington, D.C. Division of Compensatory Education. Project Early Push, Buffalo, New York. One of a Series of Successful Compensatory Education Programs. 1969. 17p. ED 038 476

Project Early Push was a prekindergarten program designed to provide disadvantaged children with experiences vital to later educational success. Students' ages ranged between 3 years, 9 months and 4 years, 9 months at the start of the program; students came

from a target area in Buffalo. Specific goals of the program were to foster a healthy self-concept; improved perceptual, discriminatory, labeling, and concept-building abilities; understanding of the environment; self-expression; motor coordination; verbal communication; auditory discrimination and appreciation; literary appreciation; parent involvement; and improved teacher awareness of the problems of disadvantaged children. Innovative aspects of the project included the Art Program designed to encourage self-expression. Continuous in-service training was provided for teachers and teacher aides. The Peabody Picture Vocabulary Test was used to measure achievement. Parent involvement was also found to enhance improvement. Tables illustrative of test data are included.

10. U.S. Office of Education, Washington, D.C. Division of Compensatory Education. Plus Program, Buffalo, New York. One of a Series of Successful Compensatory Education Programs. 1969. 19p. ED 038 474

The Plus Program was designed to provide a maximum amount of remedial work in reading and mathematics for disadvantaged youth in grades 1-8. About 75 percent of the project pupils were black, 20 percent white, and five percent Puerto Rican. Specially trained teachers worked with small groups of students in programs designed to be corrective and supplemental to regular rather than developmental curriculum. In both the corrective reading and corrective mathematics programs, small groups and individual attention enabled teachers to better diagnose the needs of students and to concentrate on strengthening weak areas. Parents were encouraged to witness the progress of children. Lists of texts used for both programs are included along with specific examples of lesson exercises. The California Reading Test and the California Arithmetic Test (Forms W and X) were used to measure gains. Tables showing test data are included.

11. U.S. Office of Education, Washington, D.C. Division of Compensatory Education. Early Childhood Project, New York City. One of a Series of Successful Compensatory Education Programs. 1969. 27p. ED 027 974

This preschool program concentrated on language development, self-concept, perception, and concept formation. Also, a vertically organized program of reading, math, science, and creative dramatics, along with parent activity, inservice training, and dissemination. The program went from prekindergarten through the third grade. Individual and small group work allowed children to proceed at their own rate. The subjects, mostly Negroes from non-intact lower class families, originally varied in number from

120 to 200 (including controls) in each of six groups (waves) studies. Pretests were administered before prekindergarten. Two posttests were given, one after prekindergarten and the other after kindergarten. Evaluation was hampered by a loss of subjects, by an arrangement in which only subsamples were tested, and by the use of various tests. The results on the Columbia Mental Maturity Scale showed that for the subsamples drawn from the first experimental wave and the basic control group, the difference in the means were not statistically significant on pretests, yet they were significant on the first posttest but not on the second posttest. For subsamples drawn from waves two through four, results on the Stanford-Binet showed that the experimental groups performed significantly better on both posttests but not on pretests.

12. U.S. Office of Education, Washington, D.C. Division of Compensatory Education. Expanded Language Arts, Buffalo, New York. One of a Series of Successful Compensatory Education Programs. 1969. 13p. ED 038 471

The Expanded Language Arts program aimed to increase the basic language skills of educationally disadvantaged children by decreasing class size and improving instructional materials. Students were drawn from a low income inner-city area of Buffalo and ranged in age from 11 to 19 years (grades 7-12). Fifty percent of the students spoke a Southern rural dialect, twenty percent spoke Italian in the home, and one percent spoke Spanish in the home. Language arts classrooms were used as laboratories for the teaching of writing. Electronic recording and playback equipment were used to improve oral language skills. Lists of books, magazines, and audiovisual materials are included. In 1966-67, two standard achievement tests were used: the California Language Test, Junior High and Advanced Levels, Forms W and X, and the Sequential Tests of Educational Progress (STEP), Levels 2 and 3, Forms A and B. Anecdotal comments rather than test data were gathered for 1967-68. Test scores for 1968-69 have not yet been compiled. The 1966-67 test data, however, showed that a mean gain of six to fifteen mean months were registered.

13. U.S. Office of Education, Washington, D.C. Division of Compensatory Education. Preschool Program, Fresno, California. One of a Series of Successful Compensatory Education Programs. 1969. 19p. ED 027 977

For each of four years varying numbers (from 45 to 750) of three- to five-year-old children, mostly Mexican-American, Spanish speaking, participated in a program aimed at language development. Classes met three hours daily, five times a week, in small discussion and activity groups that included five children and one adult The Peabody Picture Vocabulary Test was used as a pretest and posttest measure. On the pilot project nearly every child raised his IQ by ten to twenty points. For the second year, there were negligible gains, possibly due to the brevity of the program (two to five months) and the teachers' lack of nursery experience. The third year's test results, which were divided into three ethnic groups (Caucasian, Negro, and Mexican-American), were compared. The groups differed significantly on the pretest but not on the posttest. All groups gained significantly. The same procedure was followed the fourth year, and all groups gained significantly.

14. U.S. Office of Education, Washington, D.C. Division of Compensatory Education. Infant Education Research Project, Washington, D.C. One of a Series of Successful Compensatory Education Programs. 1969. 26p. ED 027 976

In a study to determine whether or not culturally deprived children develop at progressively greater deficits in intellectual functioning during the ages of fifteen months to three years, tutors provided fifteen-month-old infants with intellectual and verbal stimulation one hour daily, five times a week until they were 36 months old. The subjects consisted of Negro males from homes that met two of the following three criteria: (1) family income was $5,000 or less, (2) mother's formal education was less than twelve years, and (3) mother had been an unskilled or semi-skilled worker. The experimental group contained 28 children and the control group numbered 30. Pretests on the Bayley Infant Scales showed the controls slightly superior (but not significantly) to the experimentals at fourteen months. At twenty-one months, the experimentals had gained significantly (.05 level). Posttesting on the Stanford-Binet at ages 27 and 36 months showed experimentals were significantly superior to controls at the .01 level. When the subjects were 36 months old, the Peabody Picture Vocabulary Test and Johns Hopkins Perceptual Test showed that the experimentals were significantly superior at the .01 level; the Aaronson-Schaefer Preposition Test also showed gains but not at a significant level.

15. U.S. Office of Education, Washington, D.C. Division of Compensatory Education. Perry Preschool Project, Ypsilanti, Michigan. One of a Series of Successful Compensatory Education Programs. 1969. 22p. ED 027 975

The Perry Preschool Project assessed longitudinal effects of a two-year program consisting of a daily three-hour cognitively oriented nursery, a weekly 90-minute home visit, and less frequent group meetings of the pupils' parents. Subjects consisted of three- and four-year-old Negro disadvantaged and functionally retarded children, whose pretest scores on the Stanford-Binet Intelligence Scale were not above 85. The program operated from September 1962 until June 1966. About 24 children took part each year. Upon entering, the children were pretested on the Stanford-Binet, the Peabody Picture Vocabulary Test, and the Leiter International Performance Scale. These and other tests were used later in the program. Few significant differences between experimentals and controls were noted on the pretests. The California Achievement Tests in reading, language, and mathematics were given at the end of the first grade and again at the end of the second grade. The results showed significant gains for the experimentals over the controls.

16. U.S. Office of Education, Washington, D.C. Division of Compensatory Education. Diagnostically Based Curriculum, Bloomington, Indiana. One of a Series of Successful Compensatory Education Programs. 1969. 40p. ED 027 978

The purpose of this study was to develop and evaluate a diagnostically based curriculum for disadvantaged preschool children. For each of three years, 45 lower class Appalachian white five-year-olds were equally divided into three groups. The experimental preschool group (EPS) received a structural curriculum designed to remedy specific, diagnosed deficits in language development, fine motor coordination, concept development, and socialization. Two contrast groups were used. The kindergarten contrast (KC) received a traditional kindergarten program, while the "at home" contrast group (AHC) received only the pretesting and posttesting given to all groups. The experimental curriculum was annually revised to benefit from the past experiences. When the data from the populations of three years were combined, they revealed that in the intelligence category, the EPS mean was significantly greater than either the KC or AHC mean, and the KC mean was significantly greater than the AHC mean. Testing during the first grade, however, showed that the EPS and KC had stabilized in IQ by the end of their preschool year, but the AHC group gained enough in the first grade to cancel the IQ differences that formerly existed. Statistics for the other categories are also listed.

17. U.S. Office of Education, Washington, D.C. Division of Compensatory Education. Academic Preschool, Champaign, Illinois. One of a Series of Successful Compensatory Education Programs. 1969. 27p. ED 027 979

A study was conducted to test the effectiveness of a preschool program which emphasized rapid attainment of basic academic concepts. The experimentals were four- to five-year-old lower class, predominantly Negro, children. For two years they received instruction two hours daily, five times a week, in a group where the pupil-teacher ratio was five to one. To induce learning at an above-average rate, positive and negative reinforcers were used. A comparison group was pretested and posttested. After the first year of instruction results from the Stanford-Binet showed a gain of 17.14 points for the experimental group; the comparison group showed a gain of 8.07 points. After the second year of instruction, the experimental group gained an additional 8.61 points; the comparison group lost 2.96 points. Interviews with parents and observations of the participating children revealed no behavioral problems after the second week of instruction and no regressive behavior in general.

18. U.S. Office of Education, Washington, D.C. Divsion of Compensatory Education. Homework Helper Program, New York City. One of a Series of Successful Compensatory Education Programs. 1969. 22p. ED 028 896

An after-school tutorial program in which high school students assisted failing elementary school children with reading and homework two to four hours a week is described. The children, grades 3-6, were from low-income families, many from minority groups, and were taught in nine centers staffed by a master teacher and several tutors. The program began in February 1963 and operated in summer as well as during the school year until 1967. Evaluation of the 1963-64 school year compared 410 pupils with 185 control pupils on the basis of scores on the New York Tests of Growth in Reading. Level C. Form 1. Those pupils who were tutored four hours a week made significant gains over the control group, but the complete experimental group did not differ significantly from the control group. The 240 tutors, tested with alternate forms of the Advanced Level of the Iowa Silent Reading Tests, averaged 3-4 years of reading achievement gain. Analyses of classroom grades, pupil attitudes, tutorial academic averages, and tutorial attitudes were not conclusive. Total cost of the program for the 1963-64 school year was $151,700.

19. U.S. Office of Education, Washington, D.C. Division of Compensatory Education. Intensive Reading Instructional Teams, Hartford, Connecticut. One of a Series of Successful Compensatory Education Programs. 1969. 18p. ED 028 897

Inner-city Hartford, Connecticut, children reading below grade level but having potential for growth in reading were given a ten-week comprehensive program of reading instruction conducted by three Intensive Reading Instructional Teams (IRIT's). Groups of fifteen pupils attended the half-day sessions, moving from teacher to teacher at one-hour intervals and receiving instruction in three areas: (1) phonics and word attack skills, (2) basal reading program, stressing vocabulary and comprehension, and (3) individualized reading. Part of the children's work included writing stories and poems. These, along with teacher-made exercises, have been collected into booklet form by the Hartford Schools for use by other teachers. In the three years of the program, children from grades three to six have been included. The 1967-68 group contained 500 children, mostly from grades four and five. Pretesting and post-testing, using various forms of the California Reading Achievement Test, showed significant gains in vocabulary, comprehension, and total reading achievement. Studies of measured intelligence, using Lorge-Thorndike Intelligence Tests, showed no significant gains. Followup studies seven months into the school year following IRIT, showed that reading scores were being maintained or improved upon in a regular classroom setting. References are included.

20. U.S. Office of Education, Washington, D.C. Division of Compensatory Education. After-School Study Centers, New York City. One of a Series of Successful Compensatory Education Programs. 1969. 18p. ED 027 362

The curriculum in this after school program for low income Negro and Puerto Rican elementary school (grades 2-6) consisted primarily of remedial reading and arithmetic, library training, homework assistance, and a "Special Potential Development Service" providing music, art, and health education. The volunteer students were accepted because they were retarded one year or more in reading or arithmetic. An evaluation of the 1964-65 program showed that a smaple of fourth-grade students enrolled in the reading program for three to six hours a week had made significantly greater gains in reading age than a control group from the same schools. The greater the attendance, the greater the gains were. In the 1966-67 program the students in the program showed significant gains over expected performance in reading at each grade level. A description of the program's activities includes information on staff, teaching techniques (particularly reading), instructional materials, audiovisual aids, and costs.

21. U.S. Office of Education, Washington, D.C. Division of Compensatory Education. Self-Directive Dramatization Project. Joliet, Illinois. One of a Series of Successful Compensatory Education Programs. 1969. 17p. ED 027 364

Two studies of the Self-Directive Dramatization Project are reported. In the first the relationship of dramatization, self-concept, and reading achievement in middle class children in grades two through seven was examined, and in the second mostly black disadvantaged children in grades one through four were studied. Both groups of children dramatized stories from three to five times a week over periods of 3.5 months. In both studies gains in reading ability and self-concept during the self-dramatization period were measured, tested against a null hypothesis, and intercorrelated; and in the second study gains by the experimental groups were compared with those of a corresponding control group. The findings of the second study, thought to be more significant than the first, suggested that the experimental groups made greater gains in reading ability than the controls, especially the grade two experimentals, whose gains exceeded expectations.

22. U.S. Office of Education, Washington, D.C. Division of Compensatory Education. More Effective Schools, New York City. One of a Series of Successful Compensatory Education Programs. 1969. 39p. ED 027 363

The More Effective Schools project, an effort to make the schools better able to solve the basic reading and arithmetic problems of disadvantaged children, brought about a reorganization and expansion of the teaching and administrative staffs of elementary schools in New York City. The combined black and Puerto Rican population in the project schools was greater than fifty percent of the total school population, and all classes (preK-6) were heterogeneously grouped. Class size was reduced, after school study centers were opened, team teaching and other innovations were introduced, and teacher specialists were used. Benefits claimed in reading and arithmetic achievement as measured by standardized tests are conflicting because of the variety of designs used to evaluate student performance. Several interpretations of the data are included in this report, as well as information on staff, program methodology, and costs.

23. U.S. Office of Education, Washington, D.C. Division of Compensatory Education. Elementary Reading Centers, Milwaukee, Wisconsin. One of a Series of Successful Compensatory Education Programs. 1969. 14p. ED 028 895

In fifteen Milwaukee, Wisconsin, reading centers disadvantaged children from grades four through eight received remedial reading instruction and wide reading opportunities through small group instruction. Students remained in the program for varying periods, ranging from a few weeks to seven months. A diagnostic approach was used to identify the specific needs of each pupil. Activities, materials, and equipment used to meet these needs are listed. Evaluation consisted of administering the California Reading Test (silent reading) and the Wide Range Achievement Test (oral reading). The educational and experiential backgrounds and the responsibilities of the personnel involved in the program are presented. Additional evaluation indexes, modifications and suggestions, and budgetary information are included. References are noted.

24. U.S. Office of Education, Washington, D.C. Division of Compensatory Education. School and Home, Flint, Michigan. One of a Series of Successful Compensatory Education Programs. 1969. 18p. ED 028 900

An experimental program in Flint, Michigan, was designed to raise the academic level of underachieving children by involving their parents in the daily reading exercises and study habits of their children. Children were given materials including booklets made from old basal readers and file boxes for word cards. Parents were given instruction in helping children use these materials and suggestions for preparing children for school. Reading aloud to children was encouraged. The children involved in the program were Negro, primarily from low-income families where the parents had only limited educational backgrounds. Two elementary schools participated during 1961-62, with a total of 1,100 children in grades K-6. The Gates Reading Tests were used as pretests and post-tests to measure the effectiveness of the program and to compare children in it with a control group made up of children in another elementary school. Greater gains in vocabulary than in comprehension were noted in all groups, with children in the two experimental groups showing significantly greater gains than those in the control group. Parents who were surveyed regarding the program were enthusiastic about their own involvement and about their children's progress. References are included.

25. U.S. Office of Education, Washington, D.C. Division of Compensatory Education. Programmed Tutorial Reading Project. Indianapolis, Indiana. One of a Series of Successful Compensatory Education Programs. 1969. 15p. ED 028 899

First-grade Negroes and Caucasians from deteriorated city-center areas were tutored in reading by paraprofessional tutors whose behavior was tightly programed. The project was developed through several years of experimentation by Indiana University before being initiated in the Indianapolis Schools in 1965. Children were given fifteen-minute sessions with individual tutors during which they were asked to perform certain reading tasks. Tutors, referring to a master list of tasks and responses, indicated the correctness or incorrectness of the children's responses with short statements. Although the project has continued through 1968, the best evaluation of the program was made in 1965. It compared programed tutoring once a day for fifteen minutes with programed tutoring twice a day and with one and two daily sessions of a more traditional directed tutoring. Of these, only programed tutoring twice a day was statistically superior to its control. References are included.

26. Rosenthal, Robert; and Jacobson, Lenore. Pygmalion in the Classroom. New York: Holt, Rinehart and Winston, 1968.

To test the hypothesis that the expectations of teachers affect the intellectual development of their students, the investigators in this study administered a group intelligence test to eighteen classes of children about to enter grades one through six. The teachers were told that the test could predict potential "spurters" (actually a fiction), and were given the names of several children who were expected to make unusual gains. The students (20 percent of the children) were randomly chosen and in reality were no different from their peers. After one year the experimental group of children had gained an average of twelve points while the control group of children had gained an average gain of eight. Teachers were asked to describe their students at the end of the year, and despite the gains of the control group children, they rated them less favorably. The expectancy advantage (the degree to which the IQ gains of the experimental group children exceeded those of the controls) for intellectual development was analyzed by grade level, track, sex, and minority-group status (predominantly Mexican). It was found that (1) children in the first and second grades made the greatest gains, (2) children in the middle track showed the greatest advantage, though children in the other tracks were close behind, (3) girls bloomed more in the reasoning sphere of intellectual functioning and boys bloomed more in the verbal sphere, (4) in total IQ, verbal IQ, and especially reason-

ing IQ, minority-group children were more advantaged by favorable expectations than were other children though the differences were not statistically significant. The expectancy advantage for academic performance (principally reading ability) and classroom behavior as assessed by teachers was also analyzed by grade level, track, sex, and minority-group status.

27. U.S. Office of Education, Washington, D.C. Division of Compensatory Education. Speech and Language Development Program. Milwaukee, Wisconsin. One of a Series of Successful Compensatory Education Programs. 1969. 22p. ED 027 330

During 1966-67, Negro and Spanish-American pupils in grades one and two of seven Milwaukee elementary schools received a program of intensive assistance from trained speech therapists. The goals of the program were (1) to increase the verbal ability of disadvantaged children to enable them to compete with middle-class children of the same age, and (2) to compile a list of effective techniques developed by the project therapists. Two experimental samples (273 students) and two control samples were randomly selected from students in the lower 85% of their classes. Students in the experimental sample met in groups of from six to eight students with a therapist for forty-five minutes, four days a week for fifteen weeks. The students talked, listened, and carried out activities, such as illustrating stories. The effectiveness of the program was tested by the Ammons Quick Test of verbal-perceptual intelligence, the evaluation of tape-recorded samples of the children's speech by therapists not involved in the program, and the evaluation of the students' performances by their classroom teachers and by project therapists. Although the results do not completely agree, evidence indicates that this program of compensatory education was successful. (Sample units from the program and lists of therapy techniques are included.)

28. U.S. Office of Education, Washington, D.C. Division of Compensatory Education. Communication Skills Project. One of a Series of Successful Compensatory Education Programs. 1969. 17p. ED 028 894

The Communication Skills Center Project (CSC) in Detroit, Michigan, a Title I project, provided remedial reading services to 2,845 educationally disadvantaged children (80 to 85 percent Negro) in grades two through twelve during 1966-67. The facilities included six communication skills centers, three serving elementary and junior high school students, and three serving high school students; one reading development center, including a diagnostic reading clinic and a methods and materials development laboratory; and fourteen supplementary CSC classrooms. The measurement of reading achievement gains was based on pretest and post-test results using various appropriate levels of the

California Reading Test and the Stanford Reading Test. Social-psychological adjustment was also evaluated. Students were organized into very low, low, and normal categories according to aptitude test scores. The findings indicated that, in general, at all school levels pupils of low and very low scholastic aptitude made significant gains in reading achievement to justify their selection. Greater rates of comprehension gain than would be expected of normal achieving pupils were noted for all three aptitude levels for all age groups except for the very low aptitude elementary subgroup. References are indicated.

29. U.S. Office of Education, Washington, D.C. Division of Compensatory Education. Junior High School Summer Institutes, New York City. One of a Series of Successful Compensatory Education Programs. 1969. 19p. ED 028 898

A summer program designed for sixth, seventh, and eighth graders recommended as needing remediation or repetition met for three consecutive 90-minute sessions daily for fifty weeks. Regular school personnel staffed the eleven New York City schools designated as Summer Institutes and were assisted by guidance counselors and educational aides. Small classes and special services, including library services, were provided. Pretesting and posttesting were done with alternate forms of the Metropolitan Achievement Battery. For reading instruction students were grouped into basic and intensive reading programs according to pretest reading levels. They worked within a tightly structured curriculum emphasizing reading skills and mechanics. Emphasis in mathematics classes was on repetition of grades failed, with students grouped according to the grade they failed. Other subjects taught were English, foreign languages, sciences, and social studies. Some Institutes also offered subjects of a vocational nature. Results of a 1967 evaluation of six of the schools showed an average gain in reading of .3 year and an average gain in mathematics of .5 year. Attitudes and opinions of both staff and students concerning the program were favorable. References are included.

30. U.S. Office of Education, Washington, D.C. Division of Compensatory Education. Project R-3, San Jose, California. One of a Series of Successful Compensatory Education Programs. 1969. 22p. ED 027 136

A project was designed by the San Jose Unified School District and the education division of the Lockheed Missiles and Space Company to treat learning problems experienced by eighth and ninth grade students with underdeveloped reading and mathematics skills. The students were largely Mexican American and were from predominantly disadvantaged economic backgrounds. The program, designated R-3, was concerned with student readiness, subject

relevance, and learning reinforcement. It consisted of a special curriculum which interrelated math, reading, and technological skills; a series of field trips; and an inservice training program for the project staff. Sources to contact for additional information conclude the document.

31. Gordon, Ira J. Early Stimulation Through Parent Children. Final Report. Gainesville: University of Florida, Institute for the Development of Human Resources, 1969. 232p. ED 033 912

A project investigated a way in which early intervention into the lives of babies might break the poverty cycle. Major objectives were to find out whether the use of disadvantaged paraprofessional women as Parent Educators of indigent mothers of infants and young children enhanced the development of the children and increased the mother's competence and sense of self-worth. Parent Educators each assigned to a graduate student supervisor, received five weeks of intensive preservice training and one day of inservice training weekly. The major treatment variable was instruction of the mother by the Parent Educator in stimulation exercises once a week, in the home, on a regular basis. (Exercises consisted of a systematic series of perceptual-motor-auditory-tactile-kinesthetic inputs based upon a review of the theory and research on cognitive and affective development in the earliest years.) At the end of the first year, children whose mothers had been involved in the project were superior to control children on both the Griffiths Mental Development Scales and on the series material designed as teaching materials for the project. At the end of the second year children whose mothers had been in the project from the beginning or whose mothers entered the program when their child was one year of age were superior on the series material to control children. The second objective was partially achieved. (Implications are discussed.)

32. U.S. Office of Education, Washington, D.C. Division of Compensatory Education. Project Concern, Hartford, Connecticut. One of a Series of Successful Compensatory Education Programs. 1969. 20p. ED 027 365

Project Concern in Hartford bused approximately 260 inner-city children to suburban elementary schools. The project was designed to evaluate experimentally the effects of (1) placement in a suburban school with or without remedial-supportive assistance and (2) placement in an inner-city school with or without compensatory services. Criterion variables used to evaluate the treatment were mental ability, academic achievement, personal-social development,

and creativity. Findings of a 1968 evaluation suggested that the bused experimental children in suburban classes in grades K-3 had a significantly greater tendency to show growth in mental ability than the control children remaining in inner-city classrooms. In grades four and five, however, the controls showed better achievement than the experimentals. The effects of supportive assistance were mixed. It was felt that the placement of two or three children in a suburban classroom had no measurable negative effect on the academic achievement of the suburban children. A description of the program includes information on staff, methodology, and costs.

33. U.S. Office of Education, Washington, D.C. Division of Compensatory Education. College Bround Program, New York City. One of a Series of Successful Compensatory Education Programs. 1969. 13p. ED 027 367

From 2,000 to 3,000 ninth- and tenth-grade students in New York City, mostly black and Puerto Rican, were selected for an intensive educational program (small classes, double sessions of English, group and individual counseling, and cultural enrichment) with the hope that they would remain in the program throughout high school and then pursue higher education. Local colleges and universities had agreed to admit successful program graduates and provide them with financial aid. The students, selected for their good attendance and conduct, were unlikely to enter a college preparatory program in high school. About one-half were between grade level and two years retarded in reading and arithmetic. Over the 1967 six-week summer session which preceded the program during the school year students showed an average gain of three months to a year in four tests of reading and arithmetic. A description of the program contains information on staff, methodology, and costs.

34. Klaus, Rupert A.; and Gray, Susan. The Early Training Project for Disadvantaged Children: A Report After Five Years. Monographs of the Society for Research in Child Development, Vol. 33. No.4, 1968. 71p.

The Early Training Project attempted "to develop an intervention 'package,' consisting of manipulations of those variables which, from research on social class, cognitive development, and motivation, seemed most likely to be influential in later school performance." The population under study consisted of a total of 61 children in four different groups. Group I attended a ten-week summer preschool for four hours per day, five days per week, for three summers. The preschool program emphasized verbal interaction, individual instruction, immediate reinforcement, concept formation, preceptual skills persistance, and delay-gratification.

In addition, these children had weekly home visits for three school years. Group II had two summers of special experiences plus two school years of home visits. Home visits were made by Negro females who were certified teachers and focused on keeping parents informed and encouraging them to react well to children. Group III was the local control group, and Group IV was a control group sixty miles away. At their first testing, children were three years and six months to four years and five months; at final testing ages were from 7.7 years to 8.6 years. Measurement instruments included the Binet, WISC, ITPA, Metropolitan, and Gates Reading Readiness Tests, nonstandardized tests of motivational changes, and interviews with mothers. Results showedthat the experimentals scored significantly higher on the Binet and WISC and on the ITPA (in two out of three years); experimentals scored better, though not significantly on the PPVT and on reading achievement. On tests of reflectiveness versus impulsiveness, the experimentals scored as significantly more reflective than the controls, but no meaningful differences were found between experimentals and controls on tests of self-concept of ability to delay gratification.

35. Stodolsky, Susan S. Ancona Montessori Research Project for Culturally Disadvantaged Children, September 1, 1968 to August 31, 1969. Final Report. Chicago: Ancona Montessori School, 1969. 83p. ED 044 166

This paper, part of a long term study, reports the effect of a modified Montessori preschool experience on cognitive development, school-related behaviors, and social interactions and perceptions of disadvantaged children. Each of thirty-five disadvantaged Negro children (31 in nursery classes and four in elementary classes) was pair-matched with a middle class child. In the disadvantaged group, seventeen children were attending nursery classes for the first time. Pre- and posttests were made of cognitive ability on the Stanford-Binet, Piaget tests of length conservation, and sociometric features. Also, children were rated by testers on performance and teachers rated classroom behaviors. Data from previous years on some of the children were used in reference to long term change. Part I (nursery school) test results show that neither first nor second-year children significantly increased their I.Q. scores. Both disadvantaged and middle class children scored similarly on task orientation. Middle class children showed more friendship choices forming across social-class lines. Part II (elementary school) results present limited support for the theory that children who continue in Montessori, rather than public, school will show better school achievement. Data included school records of more than thirty children. A future study will investigate diffusion effects on mothers and younger siblings, and testing with measures more directly relevant to Montessori curriculum.

36. Cohen, Harold L. CASE Project: Contingencies Applicable for Special Education; A Brief Progress Report. 1965. 51p. ED 013 271

A project which developed a "designed educational environment" to improve the academic achievement of delinquent adolescent boys is described. Based on the behavior theory of learning, the project offered sixteen institutionalized boys voluntary, daily programed or semi-programed academic courses. Curriculums were created for each student on the basis of his score on a pretest. To receive the extrinsic reinforcements (goods or social reinforcers), which were available only through points earned by academic success, each student was required to achieve a ninety percent correct grade on an instructional unit. These points were convertible into merchandise, admission to the lounge, and private student offices. Each student's educational behavior was continually measured to evaluate the efficacy of the program's procedures and to indicate to the student his own progress. It is felt that from this information learning can be translated into the discrete behaviors which constitute it, and procedures can be developed to elicit a certain behavior to increase the likelihood that other similar behaviors will occur and that learning in general will be maintained. One section discusses a training course which was developed for the staff and another contains comparative data and information on the students' educational and leisure behaviors.

37. Schnelle, Barbara; and others. Early Childhood Education Program and Its Components: Psychological Evaluation, Sensorimotor Skills Program, New Visions--a Children's Museum. Dayton, Ohio: Public Schools, Division of Research, 1969. 113p.

The objectives of the Early Childhood Education program for disadvantaged three, four, and five year olds were to improve perceptual, motivational, and social skills and to help parents establish a home environment supportive of positive development for the entire family. Each class operated from half days per week (the fifth being devoted to inservice education and parent conferences) and had twenty children, one teacher, one assistant plus use of consultants and social workers. Classrooms provided work and play centers wherein the child had an opportunity to use materials creatively and with increasing skill, to develop physical and motor skills, to engage in imaginative play, to talk and work freely, to explore, experiment and discover. The parent program included meetings, workshops, visiting classes, and accompanying children on trips. The first part of the Psychological Evaluation study involved 88 four year olds attending the ECE program. Each child was administered seven different tasks or

criterion instruments--eg., PPVT, Draw-A-Man Test, ITPA, Visual-Motor Integration. Pre- and posttests were given to all children; no control group was available. Results showed that neither race, sex, nor age operated in any predictably consistent way to produce significant changes on any of the tasks. General growth was seen on all the measures and the largest and most consistent gains occured in language related areas. The second part of the Psychological Evaluation involved Kindergarten children with and without previous ECE program experience. Instruments used were the Kuhlmann-Anderson Test and the Metropolitan Readiness Tests. Children with ECE program experience scored significantly higher on the Kuhlmann pretest than children with no experience, but lost this significant superiority by the end of the kindergarten year. Almost twice as many children who had been in the ECE, as compared with those who had not, attained scores which categorized them as likely to succeed in first grade. The Sensorimotor Skills program introduced preplanned daily experiences into the regular classroom. Activities were planned which followed a developmental sequence in each of these areas: body image, balance, basic body movement, eye-hand coordination, large and fine muscle activities, form perception, and rhythm. A longitudinal study of the effects of sensorimotor training on four-year-olds begun in 1967. Initial results showed that prekindergarten training maintained a significant effect at the end of kindergarten. New Visions is an art museum designed to provide learning experiences for prekindergarten and kindergarten children.

3. Westinghouse Learning Corp., New York: Ohio University, Athens. The Impact of Head Start: An Evaluation of the Effects... on Children's Cognitive and Affective Development. (Executive Summary). 1969. 12p. ED 036 321

The Westinghouse Learning Corporation and Ohio University carried out a study on the impact of Head Start for the Office of Economic Opportunity. The main inquiry of the study concerned the difference between Head Start first, second, and third graders and non-Head Start first, second, and third graders in intellectual and social-personal development. Data were collected from tests, interviews, and questionnaires of students, parents, and teachers from 104 Head Start centers across the country, and control areas. The major conclusions drawn from these data were: (1) Summer programs are ineffective in producing lasting gains in affective and cognitive development, (2) full-year programs are ineffective in aiding affective development and only marginally effective in producing lasting cognitive gains, (3) all Head Start children are still considerably below national

norms on tests of language development and scholastic achievement, while school readiness at grade one approaches the national norm, and (4) parents of Head Start children voiced strong approval of the program. Thus, while full-year Head Start is somewhat superior to summer Head Start, neither could be described as satisfactory. Further research aimed at the development of an effective preschool program is recommended.

Fox, David J.; and Schwarz, Peggy M. Effective Interaction Between Older and Younger Pupils in an Elementary School "Peace Corps" Project. New York: City University of New York, City College, 1967. ED 015 223

This report is an evaluation of a program which paired students from two "slow" second-grade classes in a Harlem elementary school with students in two high achievement fifth-grade classes. These pupils lunched together weekly and played together afterward. Once a week they met for directed classroom activities. Also they went on school trips together, attended one another's school assemblies, and were encouraged to exchange greeting cards and other tokens of friendship. It was hypothesized that the second-graders, having their need to identify with a successful model fulfilled, would show an increase in motivation, achievement, personal and social adjustment, and positive school behavior and related attitudes. Evaluation proceeded on the basis of teachers' ratings, individual interviews, school attendance, and standardized tests. Two control groups were established from the second- and fifth-grade classes. The results of the study showed that the second-graders improved in school attendance and reading achievement. However, data relevant to social and personal adjustment were not consistently supportive. Moreover, although the June 1966 teachers' ratings and the individual interviews indicated that the pupils had generally improved since September, the January 1967 teachers' ratings of the pupils (then in third grade) were negative, especially in relation to peer group and classroom participation. Possibly the somewhat tutorial relationship between the older and younger children inhibited the younger children's ability to participate in peer-group situations. Further controlled testing in this area is needed. Appendixes include a research paper which discusses the program in terms of the participating fifth-graders, and other relevant data.

Wessman, Alden E. Evaluation of Project ABC (A Better Chance): An Evaluation of Dartmouth College -- Independent Schools Scholarship Program for Disadvantaged High School Students. Final Report. Hanover, N.H.: Dartmouth College, 1969. 357p. ED 031 549

Exemplary study. See Section III A.

41. Froelich, Martha; and others. "Success for Disadvantaged Youth," The Reading Teacher, 21(1):24-33, October 1967.

The salient characteristics of a beginning reading progr in a Harlem (New York City) elementary school are discus . Individual pacing of instruction, oral language development, the encouragement of independent study skills, personal involvement of each child, and frequent student evaluation are intrinsic to the functioning of the program. Initial reading activities involve the use of work charts which record daily class activities and of children's "experience stories" which the teacher copies on the blackboard and rexographs. Each child is given books and worksheets appropriate to his reading level and is held responsible for recording his own progress. Silent reading, essential to the program's individual pacing technique, is encouraged.To insure their involvement, parents are asked to sign the child's reading homework slip daily. The students' progress is formally evaluated by teacher ratings and progress records, graded word list tests, and standardized tests. According to the reported test results, the program has consistently improved the reading ability of participating students. Tabular data on achievement test results are given.

42. Israel, Benjamin. Responsive Environment Program, Brooklyn, New York. Report of the First Year of Operation. New York: Board of Education, 1968. 199p. ED 027 742

Under the auspices of the New York Board of Education and funded through the Office of Economic Opportunity, twenty Edison Responsive Environment (ERE) machines ("Talking Typewriters") were acquired, and a research and demonstration project for disadvantaged students of a major metropolitan area was developed. A total of 238 primary and secondary school children attended the REP center daily for a nine-month period, and a group of functionally illiterate adults completed an evening program on a voluntary basis. Multivariate analyses of pre- and post-program achievement measures indicated striking but inconsistent results. Significant differences on an alphabet recognition test for preschool and kindergarten children and three verbal ability tests for first graders favored REP participants in comparison with control groups. However, no significant differences on the three verbal ability tests were obtained at the second-grade level. Secondary school participants evidenced greater reading comprehension gains than control students, with no differences discernible on a word knowledge measure. The demonstrated efficacy of the program on verbal ability growth and the motivational improvements observed were considered validation of responsive environment concepts.

Israel, Benjamin; and Litwin, Zelda. Responsive Environment Program, September 1968-June 1969. New York: Board of Education, 1969. 83p. ED 035 087

This progress report covers a six-month period in the second year of an experimental research project to test the utility of the Edison Responsive Environment Talking Typewriter as a major tool for teaching both initial and remedial reading to educationally disadvantaged youth. Conducted in six schools in Brooklyn, New York, the study included experimental and control groups at four age levels: kindergarten (82 pupils), first grade (388 pupils), eighth grade (31 pupils), and ninth grade (21 pupils). Statistical analyses of the study's data are explained for each age level. In almost every instance the study showed greater reading achievement by the experimental groups using the Talking Typewriter. The report recommends further development of the Talking Typewriter program, stresses the need for teacher training in the technique, gives job descriptions of the project's primary personnel, and concludes with material illustrating the program's format and instructional tools.

43. Ball, Samuel; and Bogatz, Gerry Ann. The First Year of Sesame Street: An Evaluation. A Report to the Children's Television Workshop. Princeton, New Jersey: Educational Testing Service, 1970. 373+ pages.

The objective of this study was to assess the impact on three- to five-year-old children of the Children's Television Workshop's national educational TV program, Sesame Street. The evaluation was also directed toward discovering which groups of children seem to benefit from viewing the show, what characterizes those who learn a great deal, how children react to various techniques used in the show, and whether their reactions are related to their learning. Two settings were studied: the child in his own home and the child in a preschool classroom. The population consisted of disadvantaged children in inner-city areas, advantaged suburban children, advantaged and disadvantaged rural children, and disadvantaged Spanish-speaking children. Sites were: Boston, Durham, Phoenix, suburban Philadelphia, and northeastern California. The majority were in the Northeast. Measurement instruments used were tests of body parts, letters, forms, numbers, classification, sorting; parent questionnaires; observations; teacher questionnaires. Findings included:(1) Disadvantaged children watched Sesame Street less than advantaged children; (2) amount of viewing affected gains on grand total scores; (3) as amount of viewing increased, gains increased.

44. Hartford City Board of Education, Conn. SADC Project 1: Research Evaluation, 1968-1969: Focus on Action. 1969. 140p. ED 033 997

The report is an evaluation of those compensatory education programs established in Hartford by the State Act for Disadvantaged Children (SADC). The measured effects of compensatory education in Hartford and the extension of a modified Higher Horizons program to all poverty area schools are the topics of two introductory essays. The Hartford program has five interrelated segments, including guidance, school social work, psychological testing, speech and hearing, and health services. Each is reported in detail. The Higher Horizons 100 program, the Expanded Reading program, business services, a project to teach English as a second language, and the services of coordinators of instructional improvement are all associated projects reported in detail. Statistical data are given for Project Concern, a busing program, and Project Read in the appendix.

45. Colorado State College, Greeley, School of Education. New Nursery School Research Project, October 1, 1968 to September 30, 1969. Annual Progress Report. 1969. 159p. ED 036 320

This report describes the primary and secondary objectives of the nursery school project and the methods and procedures used in the program. Demographic information is supplied for the 30 three- and four-year-olds who were enrolled. The schedule and tentative lesson plans emphasize free choice activities, group time, and outdoor play. Planning and implementation of the program are considered. A section on the development of curriculum materials gives specific suggestions for learning activities during snack and lunch time and methods for learning concepts such as "round," understanding opposites like fast and slow, using conjunctions, and playing with alphabet blocks or picture lotto games. To enrich the children's home environments, a mobile instructional library is used for home visits. The school functions as a demonstration center, and methods of observation and available information materials are explained. A resume of the testing and data collection describes in detail the use of pre- and posttests, rating scales, observations, and inventories. A list of all personnel in the nursery school concludes the report.

Colorado State College, Greeley. A Supplementary Report on Evaluation of the New Nursery Program at Colorado State College. 1968. 42p. ED 039 919

This report, an expansion on "The Interim Report: Research of the New Nursery School," is presented in three sections. The first section examines the test results of 29 children enrolled in the New Nursery School (NNS, for academically handicapped, low income Mexican-Americans) and the REN school (similar to the NNS but for children whose parents can afford tuition). The tests included the Peabody, the Caldwell, the "C" Test, and the Categories Test. Though the tests have a very limited value for evaluating the effectiveness of the program at this time, the results seem to indicate the NNS is affecting children's behavior in a desired direction. Section two, a follow-up study of children who previously attended the schools, used standard tests, such as the Stanford-Binet, and teacher ratings. The tests tend to show that old NNS students are performing at least satisfactorily in their grade. The teacher ratings, however, correlate poorly with more objective measures and lead to the unfortunate conclusion that teachers are still prejudging children as poor-learning stereotypes. The final section reports on the usefulness of the "typing booth," a facility at the NNS.

46. Atkinson, Richard C.; and Suppes, Patrick. An Automated Primary-Grade Reading and Arithmetic Curriculum for Culturally Deprived Children. Final Report. Palo Alto, California: Stanford University, 1968. 211p. ED 023 773

This project's main objective in developing and implementing a computer-assisted instruction laboratory program in mathematics and initial reading was to individualize instruction so that each child could progress at his own pace through a subset of materials best suited to his aptitudes and abilities. This theory of instruction attempts to optimize the learning situation by manipulating such variables as the content, nature, and sequence of presentation. Minority-group students (approximately eighty percent Negro) received various combinations of the instruction from 1966 to 1968. During 1965-66 members of the project staff prepared parents and teachers for the technological innovation. The problems in putting the system into operation and the methods by which the students were introduced to the laboratory and its materials are described. It is felt that although much data remain to be analyzed, the findings of this project can serve as a basis of a theory of individualized instruction which would span the diversity and skills found in learning elementary school subjects.

47. DiLorenzo, Louis T. Prekindergarten Programs for Educationally Disadvantaged Children. Final Report. Albany: New York State Education Department, Office of Research and Evaluation, 1969. 267p. ED 038 460

This report presents the results of a study from July 1965 to July 1969 on the effects of year-long prekindergarten programs for disadvantaged children involving eight school districts in New York State and approximately 1,800 children. The study focused on factors which the schools considered important and major objectives of their programs. These were intelligence, language, self-concept, and physical development. The study was a true experimental design with two replications. The basic data were collected by individualized tests and measurements (pretest and posttest) for the prekindergarten year for three waves of children. Posttesting was completed in the follow-up years. Reports and ratings by teams of observers, as well as teachers and program directors, were made in each of the three years. Each child's parent was interviewed. The cognitive programs were able to close some of the gap between disadvantaged and nondisadvantaged children. However, the difference that remained exceeded the difference overcome. Further, the results were achieved only by the cognitive-oriented programs, and not by the nursery-oriented or early childhood-oriented programs.

48. Mandell, Wallace; and others. Disadvantaged Youth Approaching the World of Work: A Study of NYC Enrollees in New York City. Final Report. Staten Island, New York: Wakoff Research Center, 1969. 234p.

The central question of this research pertained to the degree to which Neighborhood Youth Corps (NYC) enrollees, NYC personnel, and potential employers shared a common frame of reference, and held similar views regarding the transactions involved in entering the world of work. This was studied by an examination of the work related perceptions of NYC enrollees, their work experience supervisors, and employers. The negotiating process itself during employment interviews was studied. Data on this bargaining session were gathered to include five major components. Results of the study presented a picture of youth frightened by the prospects of entering the world of work. They viewed the world of work as extremely demanding, and saw themselves as essentially unprepared for these demands. Employers and supervisors took the position that, although young people are unprepared, little preparation is needed. The NYC enrollees believed preparation is needed.

McNamara, Robert J. Characteristics of Neighborhood Youth Corps in School Projects: An Analysis for the Year 1966-67. Chicago: The University of Chicago, 1967. 126p. ED 025 579

This study of the Neighborhood Youth Corps (NYC) was prepared for the national office describing the in-school programs funded and in operation for the 1967-68 academic year. It was based on responses from 1257 project officials representing an enrollment of 102,468 youths. There were 490 urban projects, 703 rural projects, and 64 "mixed projects." General project characteristics for the country as a whole, as well as for each region, were analyzed in terms of population type, program size, varieties of employment stations, and enrollees' descriptions. It was found that most differences among projects existed, not because of regional location, but rather due to size and type. In general, large urban programs assigned participants more effectively to "white collar" jobs, provided more direct and frequent supervision between staff members and enrollees, and offered funding for a variety of activities. However, 72 percent of all sponsors reported that there were more students eligible for the Neighborhood Youth Corps than their budgets allowed. The most important success factor in the program, according to 86 percent of the respondents, was the simple placement of a youth in a job for which he received wages. Job satisfaction and counseling also contributed to the enrollee's sense of achievement.

McNamara, Robert J. The Neighborhood Youth Corps' In-School Enrollee, 1966-67: An Evaluative Report. Part I. Chicago: The University of Chicago, 1967. 178p. ED 025 577

This analysis of the Neighborhood Youth Corps (NYC) In-School Enrollee was based on a probability sampling of all the nation's youths enrolled in the program. 5,618 were studied. A comparative group of 1,143 similar line poverty youngsters in the same schools, but not in the Neighborhood Youth Corps, were also analyzed in areas where parallelisms occurred. Two-thirds of the enrollees listed retention in school until graduation as the main purpose of the Neighborhood Youth Corps. Most spent their wages on items of school needs and social respect. A fundamental factor in the development of good work attitudes and self-esteem was the enrollee's feeling of job satisfaction. This depended on wage satisfaction, satisfaction with the "boss," and satisfaction with the work itself. Attitudes were positive on the last two; the first evoked large scale criticism. White collar jobs were most popular with no discrimination among Negroes and whites in these placements. The fact that one-third of the enrollees were working in unskilled categories represents a problem for the Neighborhood Youth Corps. In general, Neighborhood Youth Corps participants received little more counseling than the comparctive group. Project directors recognize the need for greater effort in this area.

McNamara, Robert J. The Neighborhood Youth Corps' In-School Enrollee, 1966-67: An Evaluative Report. Part II. Chicago: The University of Chicago, 1968. 193p. ED 025 578

Factors such as jobs, counseling, family backgrounds and relationships, adult associations, school personnel influence, and general poverty characteristics were analyzed within the Neighborhood Youth Corps (NYC) and comparative groups of youths. Focus was placed on how these elements influenced their adjustment to self and school. Although 84 percent of both groups indicated graduation as their goal, the Neighborhood Youth Corps enrollees showed better attendance and greater responsiveness to counseling. However, there was little disparity in their study habits and subject interest. Also, in the area of general orientation towards school, there was no strong statistical difference between Neighborhood Youth Corps members and their fellow students. Similarly, the occupational goals of both groups were virtually identical. Despite careful reservations, however, the overall conclusion of the authors was that the Neighborhood Youth Corps appears to be improving the lot and attitudes of our nation's impoverished youth as they go through high school. This is because of the in-built features of the program: work experience, direct contact with supervisors, increased self-respect, and alleviation of poverty.

49. Harris, Florence R. Field Studies of Social Reinforcement in a Preschool. Durham, North Carolina: Education Improvement Program, 1967. 19p.

In an attempt to modify or substantially reduce undesirable behavior in nursery school children, a teaching technique was introduced wherein the teacher would attend to the child only when the child was manifesting acceptable behavior and would ignore the child when he was manifesting undesirable behavior. It would then be possible to determine the effect on children's behavior of teacher attention representing positive reinforcement. When the particular child consistently manifested the desired behavior the teacher technique of attending to the acceptable behavior of children and ignoring undesired behavior was reversed. If the child then reverted to the undesirable behavior, the teacher reestablished the desired behavior. These manipulations demonstrated the validity of the independent variable teacher attention as a significant influence upon child behavior. Five case studies of nursery school children with particular behavior problems indicated that the teacher technique successfully altered the undesired behavior, which included crying spells, isolate play, and excessive passivity. In each case, by ignoring the undesired behavior and reinforcing the desired behavior, the latter behavior changed from subordinate to dominant. It must be understood, however, that to achieve success with this technique, the attention of the teacher must be positively reinforcing to the child.

50. Painter, Genevieve. The Effect of a Structural Tutorial Program on the Cognitive and Language Development of Culturally Disadvantaged Infants. Urbana: University of Illinois, 1967. 29p. ED 026 110

Based on the belief that structured preschool activities aid in the development of disadvantaged children, this study attempted (1) to evolve a tutorial program to accelerate spontaneous development in disadvantaged children and prevent cognitive and language deficits, and (2) to assess growth of the infant's cognitive and language development after one year of individual tutoring. Ten children (male and female, Negro and Caucasian, eight to twenty-four months old) received intellectual stimulation for one hour a day, five days a week, for one year. A matched control group received no stimulation. Pretests and posttests were administered. The training program emphasized language development, symbolic representation, and concept formation. The results showed that sample values of the experimental group were superior to those of the control group in twenty-five of twenty-six variables tested, eight being significant at the .05 level. IQ scores of the experimental group were greater than those of the control group, and the difference was significant at the .05 level. Sample values of the experimental group exceeded those of the control group on fourteen of fifteen language subtests, two being significant at the .05 level. On tests administered to assess conceptual development, the experimental group was consistently superior to the control group. Followup studies should be done to determine long term effectiveness of the program. References and tabulated data are included.

51. Henderson, Ronald W.; and others. Positive Effects of a Bi-cultural Preschool Program on the Intellectual Performance of Mexican-American Children. Tucson: University of Arizona, College of Education; National Laboratory on Early Childhood Education, Research and Development Center, 1969. 10p. ED 028 827

In a study of the effects of mixing children of different backgrounds, eighteen disadvantaged Mexican-American children were integrated into classes with thirty-six advantaged Anglo peers to see if the intellectual performance of the Mexican-Americans would be favorably affected. Comparisons were also made between eighteen children of the same ethnic group who were in Head Start and another group of eighteen children who were not in a preschool program. All children were pretested and posttested on the Wechsler Pre-Primary Scale of Intelligence. As expected, children in the experimental integrated group made greater gains than children either in no program or in Head Start; however, Head Start subjects did not make greater gains than the children in no preschool program. On the basis of this study, it seems possible that improved intellectual performance would be maintained if children were active for a longer period of time in an environment supportive of newly acquired skills. Too often "tracking" or "ability grouping" results, in effect, in a segregated school environment. Further investigation is needed to obtain more specific data on the role of imitation in classroom settings.

52. Sibley, Sally A.; and others. Modification of the Classroom Behavior of a "Disadvantaged" Kindergarten Boy by Social Reinforcement and Isolation. Durham, North Carolina: Education Improvement Program, 1967. 58p.

Reinforcement techniques have been employed in various environments to modify in some manner the behavior of humans. The classroom is only one of several situations in which these principles and techniques have proven useful. The goal of the present investigation was to eliminate the disruptive, resistant, and assaultive behaviors and increase the appropriate peer interaction of an economically disadvantaged kindergarten white boy. The treatment program involved presentation of adult (teacher) attention contingent upon "desirable" classroom behavior, withholding of attention contingent upon "inappropriate" behavior, and social isolation contingent upon "unacceptable" behavior. The subject's behavior was classified according to the Coping Analysis Schedule for Educational Settings (Spaulding, 1966) and the teacher's interactions with the subject were categorized according to their content. The subject's behavior and the teacher's interactions with him were recorded simultaneously on an event recorder by an observer who had attained high reliability. The baseline data supported the teacher's contention that the subject was a behavioral problem, particularly

in a strictly structured situation. The program was carried out daily in the activities of freeplay, discussion, and rest. Some progress was made under the original program, but his inappropriate and unacceptable behaviors were further decreased when they were punished (isolation) rather than ignored. A reversal of the treatment program (i.e., decreased positive and neutral interactions contingent upon desirable behavior and increased negative interactions contingent upon inappropriate and unacceptable behaviors) was introduced to demonstrate that the teacher's interactions were indeed the controlling variables. After the successful reversal, the treatment was reinstated with favorable results. Although this description is accurate of the overall treatment and its effects in general, there were differences in the program and in its effects in the various activities. The study was concluded when the subject's data indicated that his behavior was no longer a major problem in the classroom. Time checks were made several weeks after the termination of the official study which indicated that the teacher was maintaining the treatment as an integral part of the child's environment and that he was still responding favorably. The major contribution of this study would seem to be the successful application of reinforcement techniques to all of the behavior emitted by a child in the classroom. This study does not attempt to demonstrate the basic laws of reinforcement which no longer require proof, but rather extends their use to a more practical and comprehensive program within a classroom. A secondary contribution may be the application of these learning techniques to a member of the "culturally deprived" or "disadvantaged" population which is receiving so much attention recently.

53. Nedler, Shari. Early Education for Spanish-Speaking Mexican-American Children: A Comparison of Three Interventive Strategies. Paper presented at the Annual Meeting of the American Educational Research Association, Minneapolis, Minn., March 1970.

Three groups of sixteen three-year-olds were involved in a nine month program. Group I was enrolled in a daily three hour bilingual preschool whose sequential curriculum was developed by the SEDL. Group II children had no program, but their parents met regularly with staff members who provided them with information on health, nutrition, and early childhood education. Group III children attended a ten hour per day day care center. The goals of the Group I program were strengthening the child's conception of self as a worthy individual, developing his sensory-perceptual, language, and problem-solving skills. The goal for Group II was to raise the intellectual performance of the child through planned parental instruction. The goal of the day care center was to provide an environment where each child could develop at his own rate; here the use of Spanish was permissable but not emphasized. Pre- and posttesting (nine months later) was done on the nonverbal Leiter International Performance Scale and the Peabody Picture Vocabulary

54. Blank, Marion, and Solomon, Frances. A Tutorial Language Program to Develop Abstract Thinking in Socially Disadvantaged Preschool Children. Child Development, 39(2): 379-389, June 1968. (Complete study. (For summary, see section IIIA)

55. Kraft, Ivor, and others. Prelude to School: An Evaluation of an Inner-City Preschool Program. Washington, D.C. Children's Bureau, Social and Rehabilitation Service, 1968. 94p. ED 031 750

The purpose of Howard University's pre-"war on poverty" experiment, operating a two year, full day nursery school for disadvantaged three-year-olds, was to determine whether and to what extent a standard nursery school program in which parents are involved could help children in their later schooling. This booklet gives an overall view of the project, explaining its experimental-control group design, the recruiting and screening of subjects for both groups and the detailed characteristics of children selected and their families. The school description includes personnel, physical setting, curriculum, and health maintenance measures. The adult activities program is also discussed. The results of the pre-post-testing program (Stanford-Binet, Peabody Picture Vocabulary Test, Merrill-Palmer Scale, and the Illinois Test of Psycholinguistic Abilities) are given. The lower a child's initial IQ was, the more likely he was to make large gains after nursery school experience indicating that the diversity of intellectual capacity was not as great as the original IQs showed. The children of low socioeconomic status who scored low on the initial IQ test made the most gains during the second year of the program. Language ability, however, remained below average even after the second year. Children in the higher SES made gains during the first year.

56. Lindstrom, David; and Tannenbaum, Jordan. Concept and Language Development of a Group of Five Year Olds Who Have Attended the Syracuse University Children's Center Intervention Program. 1970. 30p.

This study compared the concept and language development of 23 five year old children who had attended the Center for a mean of 43 months with a matched control group of 23 children, 19 of whom had attended a summer Head Start program only and four who had no preschool whatsoever. The Center program was a full day one and emphasized cognitive and linguistic development. Evaluative instruments included the Binet, Preschool Inventory, PPVT, and ITPA. Results showed: (1) the experimentals scored significantly higher on the Binet than did the controls, (2) the experimentals had a statistically significant higher mean score on the Preschool Inventory; (3) the experimentals scored significantly higher on the PPVT; (4) the experimentals had a statistically significant higher mean score on the ITPA.

57. Honig, Alice S.; and Brill, Sheila. A Comparative Analysis of the Piagetian Development of Twelve Month Old Disadvantaged Infants in an Enrichment Center With Others Not in Such a Center. Paper presented at the Annual Meeting of the American Psychological Association, Miami, Fla., September 1970. 28p.

The program in which these infants were placed was based on a Piagetian model emphasizing changing the cognitive processes available to the child, speeding up the acquisition of these processes, and helping to generalize these structures to new sets of stimuli. Each teacher was assigned to four infants "for whose care, loving, and lessons she is responsible." Teachers were trained in Piaget's theories and their applications. Teachers were encouraged to use their ingenuity in finding and creating responsive toys and in modifying a task presentation to fit individual baby's performance levels. Language skills were emphasized through speaking, reading, and singing. At twelve months, thirty-two black infants (sixteen experimentals and sixteen controls) were tested with the Cattell Infant Intelligence Scale, the Early Language Assessment Scale, and the Piagetian Infancy Scales. Experimental infants had by then attended the program for a mean of 84 days; the control group had received no intervention at all. Results showed: (1) the experimental infants scoring significantly higher on a mean total of their scores on the Piagetian Infancy Scales, (2) controls scoring slightly higher on the Cattell than the experimentals. The authors suggest that the advances made by the experimental infants on the Piaget Object Performance Scale and the Means-Ends Scale "offers encouragement to explicitly planned enrichment efforts, based on a Piagetian cognitive-developmental model...."

58. Dusewicz, Russell A.; and Higgins, Martin J. Toward an Effective Educational Program for Disadvantaged Infants. Paper presented at the Annual Meeting of the American Educational Research Association, New York, February 1971. 10p. ED 047 045

This study attempted to determine if significant and lasting cognitive gains could be achieved by focusing preschool efforts upon children younger than those now being serviced by traditional programs--children under three years of age. Thirty-six disadvantaged children, 19-28 months of age, were randomly assigned to two

groups: a Home Group receiving 90 minutes of tutoring in the home weekly, and a Center Group attending a four hour per day centrally located cognitive enrichment program. After 125 program days, analyses of covariance of post-test scores (taking pre-test scores as covariates) on the Slosson Intelligence Test, the Peabody Picture Vocabulary Test, and the Vineland Social Maturity Scale (VSMS) revealed significant differences favoring the Center Group on the first two measures. Non-significance on the VSMS appeared to be artifactual. The results demonstrate the feasibility and merits of compensatory education with disadvantaged infants in a school setting.

59. Staats, Arthur W.; and others. A Token Reinforcement Remedial Reading Program Administered by Instructional Technicians. Madison: University of Wisconsin, Research and Development Center for Cognitive Learning. 1970. 28p. ED 042 301

Instructional Technicians administered a token reinforcement remedial reading program to 32 black ghetto children who were problem learners. In the 40.2 mean hours of training, the subjects made a mean of 78,505 reading responses; learned a mean of 726.8 words, retaining 81% short term and 59% long term; and received a mean monetary amount of $21.34 worth of reinforcers. Test results indicated that the subjects did significantly better than the controls on a 100-word sample from the training materials. They also excelled on a standard reading achievement test, including the vocabulary section, and on both the verbal and nonverbal portions of an intelligence test.

60. Nash, Maurice J. A Curriculum Evaluation of an Academy for Black Drop Outs: The Alternatives in an Alternative School. 1971. 34p. ED 047 043

This paper reports the results of a comprehensive curriculum evaluation of an academy founded to assist black drop-outs. Designed to determine the effects of the educational program on the student body and to lay bare the major constructs in the instructional and curriculum designs, the study employed a modified Shufflebeam curriculum evaluation model. Eleven major data sources were utilized which allowed comparisons to be made with data on comparable public school populations, as well as within the group comparisons. The findings raise questions of present inner-city educational programs.

61. Beggs, Donald L. The Educationally Disadvantaged Elementary School Child: Anxiety Reduction and Behavioral Change Through Public Commitment and Counseling. Final Report. Carbondale: Southern Illinois University, 1969. 32p. ED 031 769

A total of fifty subjects, low in sociometric status and identified as educationally disadvantaged on the basis of high "school anxiety," were drawn from fifth and sixth grade public school children. Control and experimental groups were set up. Elementary counselors worked with the experimental groups using procedures based on the theory of cognitive dissonance. In one group subjects were requested to verbalize their intended behavior change. Primary objectives were to determine if the subjects showed differential improvement by treatment with respect to: (1) school anxiety, (2) severity of student behaviors as rated by subjects, (3) teacher-pupil relationships as rated by teachers, and (5) teacher-pupil relationships. There were three major conclusions: (1) counseling with or without public commitment was not found to positively influence the above five criteria, (2) certain counseling "conditions" appeared irrelevant to some behavioral problems, and (3) attitudes of teachers who consulted with counselors improved toward guidance while attitudes of teachers who did not consult with counselors deteriorated.

62. Thackeray, John; and others. "Open Door," New York City. New York: Center for Urban Education, 1970. 47p.

A description of the early experiences of Lillian Weber's "Open Door" program in two New York City public elementary schools. The program is based on, though not a replica of, the English infant schools. Its goals are to structure the school and the classroom in a manner similar to the best of the Head Start programs in order to create a flexible and intimate learning environment, to provide greater continuity between grade levels, and to counteract the isolation of the self-contained classroom. The use of school corridors to provide a stimulating and informal learning environment is the first step in bringing about the envisioned restructuring. Movement of children and adults is encouraged through the corridor and between several classrooms. Those classrooms whose teachers wished to restructure their rooms were helped to establish learning centers in their classrooms--language, math, science, dramatization, and art. Although one area is specifically devoted to language, the program contends that language is part of all of the experiences and in each area, children are encouraged to talk, read, and write about their discoveries. Children choose their work areas, and teachers circulate among individuals and small groups. To give direction to the children's exploration of the materials, teachers placed in each area a stack of cards with written questions. Materials are of the "finding out" kinds--typewriters, printing press, workbench, magnifying glasses, prisms, animals, sand, cash register, scales

loom, musical instruments. Since this program was still a developing model, a tightly structured statistical evaluation design was rejected and replaced by observations and comments of several prominent educators. Some of these observations follow: "...very little aimless, restless, or disruptive behavior...children seemed happy to be at school--a phenomenon not often observed in a ghetto school...their [teachers'] different personalities were the most important factor in determining the prevailing classroom climate... all teachers were concerned about and actively taught reading (or reading readiness) and were aware of the achievement levels of all their pupils...While I found this classroom uncongenial to me because of the disorder and the physical fooling around, in general according to such standards as verbalization and reading levels, this class was achieving much better than I would have thought possible...noticeable decline in discipline problems...The beauty of the program is that each school trying it could develop its own character and modifications. This is a conscious policy of the director...numerous instances of prolonged attention...children helping one another...." Questionnaires (with a limited sample size) showed positive reactions by teachers, aides and student teachers; twenty of twenty-one parent respondents indicated "a belief that the project helped the children to learn."

C. Summary of Major Studies by Category

Outline and Index

C. Summary of Major Studies by Category

1. Development of Specific Academic Skills

a. Reading

The bulk of programs which attempt to develop or ameliorate academic abilities concentrate, predictably, on reading skills. The available literature on a dozen such programs which produced positive results of varying degrees of strength and educational significance, will be outlined here, with the understanding that (a) other examples of successful or quasi-successful "compensatory" reading programs can be found; and (b) programs which deal with reading in addition to other academic skills will be covered in subsequent sections.

Attempts to further group even such a delimited sample in order to draw some conclusions about the status of programs and research in this area meet with frustration. The number of children in these programs ranges from 32 (in ½ year) to 13,000 (over 3 years); sample sizes used to evaluate program effectiveness range from the total number to an exceedingly small percentage of participants. Reading programs occur at all grade levels, with the majority in elementary school; however, the scope of such programs ranges from one to all twelve grade levels. Again, as in all compensatory education literature, there is enormous variability in program components, in extent and duration of treatment, and in the quality and scope of the descriptive and evaluative material available. Primarily, for organizational purposes, therefore, the following clustering seemed appropriate.

(1) Most common are those programs which provide an intensification of reading instruction, generally by the use of specialists and/or special centers. Half an hour per day, over a 7 month academic year is about average. The one truly "high intensity" reading program, providing 3 hours every morning for about a 10-week period, is Intensive Reading Instructional Teams (U.S. Office of Education, 1969) in Hartford, Connecticut. From 1965-9, children in grades 3-6 and first grade were given small-group remedial instruction geared toward decoding, vocabulary and comprehension skills, and reading appreciation by teams of specialists. Pre- and post-testing on the California Achievement tests, administered 6-10 weeks apart, revealed an average 7 month gain for 3rd-5th graders in 1965-6, a 10 month gain for 4th-6th graders the following year, a 10 month gain for 4th graders, and a 15 month (1.5 grades) gain for 5th graders in 1967-8. To determine the amount of carry-over, 24% of the 1965-6 participants were retested (without further treatment) in Spring 1967. Two out of the three schools' scores revealed further gains, which were statistically significant. The description of the 1st grade 1968-9 effort is so poor as to warrant exclusion from this

report, were it not for previous reasonably credible results. An upward trend in what the reporters label reading achievement was found for the first cycle students, using PPVT as a baseline measure and Primary Mental Abilities as a post-test. Significant increases for the second cycle were reflected on the PMA used as both pre- and post measure.

Three other programs are built around the traditionally supplementary remedial reading instructions during the school day. Elementary Reading Centers (U.S. Office of Education, 1969) were established in about 15 Milwaukee schools each semester during 1966-7. Small groups of children (about 6-8), in grades 4-8, over a year retarded in reading, but of average and above average intelligence, used the Centers all week, ½ hr. per day for one or, occasionally two semesters. The Communication Skills Project (U.S. Office of Education, 1969) in Detroit served almost 3,000 students in grades two thru twelve during that same year in six centers plus supplemental classes. Groups of 6-10 students used the Elementary Centers for two 60-minute periods a week, while the high school centers were attended more frequently--four times a week for 45 minutes. Pomona's Augmented Reading Project (U.S. Office of Education, 1969) did not provide separate centers but offered varying amounts of remedial instruction to 1st-3rd grade children in six schools. Reading specialists taught in all three programs, and provided feedback and suggestions to classroom teachers in two. There seems to have been an emphasis on thorough diagnosis of reading difficulties and periodic re-assessment in the Skills Center project, which included a separate resource development center and diagnostic staff. Counseling services were provided as well.

All programs assessed gains in reading achievement via California Reading Tests, Wide Range Achievement Test, and/or Stanford Reading Tests. No statistical tests were applied to the data, nor were control groups employed. For random samples of students in the first semester Milwaukee program, gains were .69 years (oral), .64 years (silent), compared with the disadvantaged population norm of .35 years gain. After the 2nd semester, respective gains in oral and silent reading were .89 and .76 years, compared with an expected .5.

In 1966-7 a systematic random sampling of children in the Augmented Reading Project showed an average 9 months gain in a 6 month period, 4½ months gain in a 4 mo. period in 1967-8. Since these results are based solely on the WRAT, they should be interpreted with caution. Other measures were used at various points in the program, but unfortunately did not provide data suitable for illustrating reading progress (i.e. were used only once).

A small sample of pupils in grades 4-12 using the Communication Skills Centers were pre- and post-tested. The evaluators compared average gains (months per year) made during the program with gains

made prior to entry into the program. Junior and senior high students, particularly the latter, seemed to have profited, on the basis of these measures. Fourth-sixth grade students improved relatively more only in paragraph meaning, compared with the disadvantaged norm only. Although no comparative data are provided either on the pupils or on the instruction at elementary vs. higher levels, the more frequently spaced periods in the high school centers may have been a contributing factor.

Finally, the After School Study Centers (U.S. Office of Education, 1969) of New York City provided tutorial programs in both reading and mathematics, as well as homework and library classes. The centers ran from 3-5 each afternoon, served grades 2-6, and were voluntarily attended. Between 1964 and 1967, 13,000 students were in reading or arithmetic classes. These classes served about 15 pupils each, and reportedly used a wide variety of techniques, the principal resource in reading remediation being the SRA Reading Lab. In 1964-5 an evaluation of the Study Centers' reading program was conducted using 1,521 matched pairs of students. With attendance varying from 3-6 hours a week, significant differences in Metropolitan Achievement scores were found between experimental and control subjects, both groups attending the same schools. Furthermore, progress assessed in non-Center schools was less than that recorded in Center schools, either of experimental or control subjects, certainly a plus for the program. The effectiveness of the arithmetic classes was not assessed.

(2) A second set of reading programs can be loosely characterized by their highly programmed instructional techniques. These three--the Responsive Environment Program (Israel, 1968) in New York City, Milwaukee's Token Reinforcement-Remedial Reading Program (Staats et al., 1970) and the Programmed Tutorial Reading Project (U.S. Office of Education, 1969) of Indianapolis--employ materials and procedures that are more carefully specified and consistent over time than those programs previously discussed (and than most programs reported), and thus are somewhat more readily analyzed and more easily replicated.

The Token Reinforcement program was actually an experimental study designed not only to improve the reading skills of "problem learners" but to verify the principles of reinforcement in a natural instructional setting. Thirty-two black junior high adolescents were matched with a control sample on the basis of a work recognition score, school, and type of class--one third of each sample came from an educable mentally retarded class. Token reinforcers, equivalent to various monetary amounts, were used in a carefully specified manner to reward correct responses during activities based on the SRA Reading Labs. Unique to this experiment was the use of paraprofessional instructional technicians rather than the usual college or graduate students. Housewives and high school students, supervised by a trained teacher, worked with individual children in the

experimental group for about thirty minutes per day over 4-5 months. The Metropolitan Achievement Test (Reading) and the Lorge Thorndike Intelligence Tests were both used as pre- and post-measures. Significant experimental effects were found for the non-verbal IQ score, and on a vocabulary test taken from the training material. Upward trends occurred for the standardized reading achievement measure and verbal IQ. These outcomes held for children from EMR classes as well as from regular classes. Immediate and one-week-later retention of vocabulary was found to be 81% and 59% respectively. In addition, the experimenters attempted to study the functional behavior repertoires of their subjects (e.g., total number of words read, overtime) to a limited extent; however, they used only an indirect measure of sounding out/recognizing new words, for which they found no improvement. In this, as in most studies using token economies, the assumption was made that motivational problems underly educational failure, and that these problems stem from the absence of social approval for "learning" (presumably the overt school curriculum) and for competition for grades. The validity of this assumption and/or the values inherent in it may be questioned. Nevertheless, the careful experimentation and beginnings of descriptions of ongoing behavior rather than reliance on post-tests must be highlighted as a partial attempt to understand the teaching-learning process.

Similar in many respects to the above study, the Programmed Tutorial Reading Project employed paraprofessionals who worked in a carefully structured, highly controlled 1:1 relationship with the students. Rather than adolescents, these were 700 black, 500 white first graders, receiving two fifteen minute sessions per day. As opposed to the token economy system in which reinforcement rate was progressively reduced, this project employed minimal cuing/feedback at the start of a lesson, graduating to frequent and immediate verbal feedback to children's responses during activities based on the Ginn Basal Readers. For evaluation purposes, four experimental groups with forty-three subjects in each were set up: programmed or traditional tutoring, for one or two fifteen minute sessions per day. Matched control subjects were selected from the same classrooms. Ginn's Recall, Preprimer, and Primer Tests were used, among others. Only the programmed/two-session group was generally superior, although programmed vs. traditional tutoring effected a significant difference on the Stanford Reading test as well.

Although the Responsive Environment Program was also centered around programmed reading instruction with immediate feedback and reinforcement to the individual child, it is more difficult to approach a specific description of the instructional procedures, since (a) throughout the program, and particularly during the first year, programs (software) were still being developed; (b) children at various levels from K to high school participated; and (c) one half of each daily forty minute session involved the individual with O.K. Moore's

Talking Typewriter, while the other twenty minutes included a classroom follow-up session. The Talking Typewriter provides visual, auditory, and kinesthetic stimuli and feedback to the child and either initial or remedial reading skills instruction via programs prepared partially on the basis of diagnosis of need. However, it does not appear that much initial diagnosis was carried out. A large variety of materials were used to develop programs in this project; by June 1968 about 700 programs had been prepared, a selection of which were formally evaluated, but no report made in the overall evaluation. Primarily black and Puerto Rican children from low income Brooklyn families were bussed each day to the Responsive Environment Center for forty minutes of reading instruction. The typewriter booths were monitored by paraprofessionals, with two teachers supervising. A good description of the theoretical foundations, previous research, background, setting, and initial procedures of the program is available. For each school involved, experimental and control classes were selected; control schools were chosen as well, and a Hawthorne effect was indeed detected among second grade students during 1967-8. That year no differential gains were found for kindergarten students on the PPVT; first graders were significantly higher in Metropolitan word discrimination but not in sentence reading; some relative improvement in reading comprehension occurred in eighth and tenth grades--the data, however, are poor and incomplete. The 1968-69 program produced significant progress in auditory discrimination in kindergarteners, and significant increases in word discrimination and sentence reading in first graders. Too much information was missing for the second junior high classes to evaluate gains. Unfortunately, initial differences existed between experimental and control subjects in both achievement and self-concept/aspiration, the nature, extent, and effects of which are not made clear. It is also unfortunate that rather limited assessment measures were employed.

In general, though, the tightly structured programmed approach including frequent and immediate feedback, coupled with a 1:1 tutorial relationship, individual pacing and somewhat individualized programming, seems to have some success.

(3) In contrast with the circumscribed, highly focused techniques of the previous set of programs, the two described here are more global in their approach and oriented towards the affective development of the child as well as his reading progress. The Malabar Reading Program for Mexican American Children (U.S. Office of Education, 1969) served pre-school through third grade children in one Los Angeles school. The methods employed by regular teachers during the school day were gradually developed and defined over a period of years during the program, which is described as involving individualized instruction, exploration, self-instruction, and parent participation. Although changes in self-concept were anticipated and specified, there is no report of any assessment of such

[illegible] the Stanford Reading Test, which was inappropriate for [illegible], particularly the first grade participants, and the California Reading Test (for third grade) were used. Groups of children in the program were compared on these measures to children in the school who had not participated (i.e. were tested at the start of the program in 1966); the reading scores of these groups increased significantly over three years. Significant differences were found on a locally developed sight vocabulary test as well.

The Finley School Program (Froelich, 1967) was another beginning reading program which stressed individual pacing, independent learning, the development of a positive self-image, and parent involvement. This last component included a daily check of the child's home reading assignment, and data are reported which indicate that this was indeed accomplished to a high degree.

No one method was emphasized--the approach is described as "eclectic and pragmatic;" nevertheless, the available description of materials and methods seems too generalized and abstract to get a clear picture of the program. No observational/behavioral data are offered. The emphasis was on individualization of instruction, with independent work and peer-help stressed. However, although first graders in this Harlem school (89% black, 20% Puerto Rican) were grouped "heterogeneously," second grade classes were formed on the basis of progress in reading, with pacing then done by classes, not individuals. Although the descriptive article maintains that the class organization was "fluid," the ability grouping practice does appear to be contrary to the stated objectives of the program. A good deal of assessment measures were built into this program, in contrast to the Malabar school, some used for individual pacing, some for diagnosis, others for evaluation. However, reported evaluation results include only quartile grade scores for grades 1 and 2 over four years. Pre-test results are not reported; no comparison group existed. These rather limited and questionable data do indicate an upward trend in reading achievement. Again, as in the Malabar project, attitudinal change did not appear to have been examined.

(4) One final approach to reading instruction in compensatory programs recognizes that significant individuals in the child's environment other than professional educators can and do have a profound influence on what and how he learns. Parents and peers are highlighted here as agents who can teach both specific skills and more generalizable behaviors and attitudes towards learning. New York City's Homework Helper Program (U.S. Office of Education, 1969) is targeted for both the high school tutors and the elementary school (grades 3-6) children whom they teach. While attempting to improve the reading skills of poorly-achieving children, the program hopes to motivate the high school people to remain in school, to

perform better themselves, and perhaps to choose teaching as a career. It is assumed that the adolescents can communicate more effectively with the youngsters, and that their behavior will provide a positive model for these children. The program had each tutor work with an individual child for two hours after school, 1-2 days a week, doing reading activities, homework, and some "creative" work. Tutors were given a printed manual, once-a-week training session, and were required to complete daily reports. The 1963-4 evaluation procured complete data on 356 fourth and fifth grade pupils and 97 tutors, with carefully selected pupil and tutor control groups of 157 and 57 respectively.

Pre- and post-testing of the children with the same form of the New York Tests of Growth in Reading yielded gains for those pupils receiving four hours per week tutoring significantly greater than those of control pupils. Even when adjusted for practice, the gains made by the tutors, after seven months, on the Iowa Silent Reading Test, were significantly greater than those made by the control group. No significant changes in attitudes and aspirations occurred, although tutors began with high scores in these areas. No relationship was found between the improved reading scores of the tutors and their school performance. It is unfortunate that the great bulk of data provided by the tutors' reports were not analyzed in a systematic manner, as there appears to be a wealth of information about the learning occurring in both participants in the tutorial relationship.

The School and Home Program (U.S. Office of Education, 1969) of Flint, Michigan suffers even more from lack of information about what was taught and learned. Black parent participants, primarily from the rural south, were instructed in the importance of their own attitudes toward and involvement in learning. Parents were instructed in a range of activities in which to engage with their child--providing quiet study time, reading regularly to and in the presence of the child, listening to him read, giving praise, encouragement, asking questions, providing and valuing the child's academic property, etc. The program included a reading incentive club, and provided a dictionary for each fourth to sixth grader. 1,100 children in two schools (K-6) were included in the 1961-2 program. Unfortunately, the reported evaluation is poor. Small samples (grades two and five) from the two experimental schools and a control school were pre- and post-tested on the Gates Revised Reading Tests. In the two grades, gains in both schools in vocabulary were significantly greater than control gains, while in comprehension only one school made consistently and significantly more progress. It is unclear to what extent or in what manner the parents performed their designated activities, although the report mentions a "survey" done in the experimental communities.

Without observation of the ongoing processes and relationships in the programs such as these, and without follow-up and collateral data on the areas of behavior in which the motivational changes can be assumed to be reflected, it is impossible to assess the import or impact of such programs, as valid as their initial assumptions may be.

b. Language and communication

Language development is very often integrated into, or identical with, the development of beginning reading skills. In separating out the following small sample of programs, however, we have differentiated between reading development and the cultivation of oral and written communication skills.

At the secondary level, between 1,600 and 2,900 students participated in Buffalo's Expanded Language Arts (U.S. Office of Education, 1969) project from 1966-68. Fifty percent of the students spoke non-standard English (southern rural), while 21% came from non-English-speaking homes. The program provided additional staff to create a 10:1 student-teacher ratio in the schools' language arts classes. Emphasis was on writing and speaking activities, and audio-visual materials were used extensively. A 1966-7 evaluation included pre- and post-test administration of the California Language Test and of the Sequential Tests of Educational Progress to a sample of 610 students. While no gains were recorded by the STEP, the average gain in months on the former test was greater than the seven months of program participation. Gains were greatest for tenth and eleventh graders, least for seventh and eighth. Unfortunately, although pre- and post-writing samples were collected, these were not analyzed in any systematic way, and no other measures more appropriate to the program were employed.

Milwaukee's Speech and Language Development Program (U.S. Office of Education, 1969) was aimed at young children (grades one and two) chosen on the basis of teacher ranking of verbal ability, a speech articulation test, and judgment of a speech therapist. The bottom 85% of this distribution were randomly assigned to two experimental and two control groups, which were roughly equivalent in age, grade level, IQ, and SES. 70% of the children were black, 15% Spanish-speaking. For fifteen weeks (either the first or second semester), the experimental children received 45 minutes per day, four days per week of small-group work with a speech therapist in the areas of decoding, memory, association, and encoding of verbal stimuli. It is unclear whether these 45 minutes included work in the larger classroom with the classroom teachers. Bulletins were distributed to these teachers, as well as to parents, outlining the nature of the children's deficiencies in what seems to be, on the basis of limited evidence, a rather offensive manner. The evaluation

points out that few appropriate assessment instruments are available. The Ammons Quick Test of Verbal-Perceptual Intelligence indicated that the first semester experimental group was significantly higher than the other three which had received no treatment; however, the second semester treatment group did not perform better than controls, although the first experimental group maintained its superiority without further treatment beyond January. Classroom teachers rated students on a variety of language factors and participation, before and after treatment, and found no change. However, non-program therapists did pre- and post-ratings of a random sample of tape-recorded speech, and found significant improvement for both experimental groups. The participating therapists also noted experimental-group progress on classroom participation variables. No similar ratings were done of control children's behavior.

c. Mathematics, reading, and language

The development of mathematic skills is rarely the sole or even a primary objective of compensatory programs. More common is the reading-and-math combination, sometimes along with language skills development, or including the fostering of the amorphous "general intelligence." The programs cited below were not only built around such multiple skill objectives, but achieved some success in both or all.

(1) Parallel to the most common remedial reading approach outlined in the first "Reading" sub-section run the analogous reading/math supplements of instruction. Buffalo's Plus Program (U.S. Office of Education, 1969) has offered corrective reading and remedial math to over 7,000 children in grades one through eight since 1966. Small groups of 5-6 are taught for 30-45 minutes per day, with methods and materials varying according to pupil need and teacher preference. Inservice training has been provided for the project teachers, who were to work closely with classroom teachers in designing coordinated activities. A 1966-67 evaluation revealed an average eight months gain in reading made during 7.5 months, and a nine months gain in math over eight months, on the California Reading and Arithmetic Tests. Note that the same children did not necessarily participate in both classes, although those who may have done so are not reported. Thus, two separate programs are actually being examined here.

Somewhat similar to New York City's After School Study Centers is Buffalo's Afternoon Remedial and Enrichment Program (U.S. Office of Education, 1969) which offered two 45 minute classes after school three days per week. One period of skill remediation and one of enrichment (art, music, physical education, etc.). Again, it is not clear whether children who attended reading classes also received math instruction.

Classes were small (six), methods and materials varied. Once again, the evaluation of the 1966-7 program report average months of gain on California Reading and Arithmetic Tests over five months. For all children in grades 2-8, their mean progress was five months in reading, six in math.

More intensive instruction was offered at the Junior High Summer Institutes (U.S. Office of Education, 1969) in New York City, where students could make up for failures in credit subjects, and receive remediation in reading skills. The math classes, as those in most other subjects, consisted of a repetition of the previous year's course, rather than assistance in improving poorly-acquired skills. For 5½ (4 effective) weeks, students attended one or two ninety minute classes per day. Six institutes were sampled for evaluation purposes using pre- and post-Metropolitan Achievement Tests. In the five weeks between testings, 479 pupils progressed an average of three months in reading, and 339 math students gained an average of five months. Hawkridge points out that some changes may have been artifacts of testing procedures. In most of these instances where average months of gain are reported, the data presented are inadequate. The evaluation of this study also assessed the "quality of instruction," staff and child attitudes, attendance, and the functioning of educational aides. Math classes in particular were rated as teacher-dominated and authoritarian.

(2) In contrast to the above programs, which consisted of separate math and reading sub-components, Project R-3 (U.S. Office of Education, 1969) of San Jose attempted an integration of reading, math, and technological skills in a carefully designed program intended to be highly motivating and relevant to the occupational structure of the area. The children were eighth and ninth grade Mexican Americans who participated every morning for two school years in classes of fifteen for reading and math activities, larger for other technology-oriented activities. Two-week teaching modules were tightly organized, and utilized gaming, discovery, team-learning, role play, field trip, and other non-traditional techniques. Students' families were included in field trips, which, as all activities, were meant to further understanding of a technologically-based society. The program was developed in cooperation with a commercial outfit (Lockheed), and included ongoing assessment as well as independent evaluations at the end of each program year. Experimental and control children did not differ in their California Achievement scores at the start of the 1967-8 year; significant differences were found in both reading and math for that one year period. This is a highly interesting program on paper; it would be particularly enlightening to observe the degree to which activities and skills were integrated in practice, and to examine the ongoing assessment techniques and data.

(3) One program worthy of note, and analogous to the Responsive Environment reading project, was Stanford's computer-assisted-instruction laboratory, Automated Primary Grade Reading and Arithmetic Curriculum (Atkinson and Suppes, 1968), set up in an elementary school to serve first and second graders during 1966-68. Separate math and reading programs were developed for CAI, and provided individualized instruction (on the basis of the child's learning rate and past response patterns) for 56 first graders (1966-7) and 72 second graders/80 first graders (1967-8) in math and reading respectively. Children learned to respond by light pen, typewriter, and orally, and received visual and auditory feedback. The system was designed for research and curriculum development use as well as for instruction, and a great deal of data were collected on the participants as well as the programs. Observation of children's behavior at the terminals was conducted as well. For children in the math program, low IQ boys and average IQ girls benefited most, their scores on Stanford Achievement Tests being significantly greater than controls'. A number of reading achievement measures were employed, and experimental children exceeded controls on almost all, with significant differences on the California vocabulary and total scores, Stanford vocabulary and word study scores, and project-developed tests of vocabulary, phonetic discrimination, syntax understanding, and pronunciation. A great deal of data remained to be analyzed, but initial results, not surprisingly, appear similar to those obtained from a carefully planned tutorial program.

(4) Three high-school level programs have included reading, math, and communication skills in their objectives. The first is Hartford's Higher Horizons 100 (Hartford City Board of Education, 1969) which has selected 100 ninth grade students each year to participate in a poorly described and unclear combination of academic, counseling, and cultural activities. The small-group instructional team of the 1968-9 program consisted of six special teachers, one project assistant, and a counselor, who provided a student-instructor ratio of about 12:1 in a self-contained classroom arrangement. No changes in Lorge-Thorndike intelligence scores were found for the 1968-9 group who fell in the average range. Significant increases in Metropolitan Reading scores and in SRA Writing Skills were found. Boys gained significantly in math problem-solving ability as tapped by the Metropolitan. A questionnaire regarding "motivation," administered to teachers and students, revealed little or no change in reported behavior.

A program which did not assess reading, math and language progress directly but which shared the "Higher Horizon" objectives of increasing aspirations with respect to continuing education, and of providing the requisite basic skills, was the Summer Upward Bound (U.S. Office of Education, 1969) program of Terre Haute, Indiana. In 1966, 76 high school students lived on the Indiana State University

campus for eight weeks, participating in a highly organized program of instruction, study, and recreation. Reading, writing, grammar, math, visual perception, and study skills were included in the curriculum. Although several measures were apparently employed for classroom grouping purposes in language arts, the academic effectiveness of the program was assessed only by pre- and post-testing on the Differential Aptitude Test, a battery including verbal, abstract, and mechanical reasoning, numerical ability, space relations, and language/grammar skills. The tested group of sixty students improved from an average 35th percentile (based on national norms) to 46th percentile; percentile changes were found to be statistically significant. Measures of self-image revealed significant positive changes as well.

One of the few out-of-school compensatory programs to be evaluated is the Christian Action Ministry Academy (Eash, 1971), a "second-chance" school for black high-school drop-outs, the objectives of which were to develop basic communication, self-expression, and problem-solving skills, self-identity, and "an appreciation of the heritage of man and the varieties of human life." Attendance at the Academy, in the heart of a Chicago ghetto, was voluntary, and no records were kept to intimidate students. Instruction was characterized as individualized, self-paced, and interest-based, with a wide range of materials, instructional techniques, and flexible routes toward fixed objectives for the students. No group tests were given, or comparisons made among students. Rather, assessment and feedback were provided continually, and were directed toward the achievement of skills required to pass the General Educational Development tests. Small group instruction and discussion, as well as individual activities, was seen as an important setting for both intellectual and personal/social growth. Pre- and post-testing with the Test of Adult Basic Education revealed significant progress in math and language, limited gains in reading, over about five months. Moreover, several Academy students have succeeded in obtaining college educations. This report is one of the few in the compensatory education literature which points out in a thoughtful and effective manner the nature of the usual stop-gap measures labelled "compensatory" and suggests the dimensions along which alternatives to the educational environment should be built. If more data on these students' activities, behaviors, and attitudes are available, they should be publicized. Meanwhile, the instructional model presented here represents what formal education, "compensatory" or not, should be about.

d. Broader objectives

The set of programs cited immediately above provide an appropriate preview to a number of efforts which, through a total change of residential and/or formal learning environment, have attempted to

influence the child's intellectual and emotional development and his academic and social skills.

Two were bussing programs. Boston's Project Exodus (Teele, 1969) was accomplished despite the city through private financing and the considerable determination of ghetto residents. Hartford's Project Concern (U.S. Office of Education, 1969), after tremendous suburban opposition, was finally initiated through metropolitan cooperation in thirty-five suburban schools. Two hundred and sixty-six black K-fifth grade children were randomly selected by classroom units from Hartford's segregated schools and reassigned to vacant seats in 124 different classrooms. Very few of the selected sample declined to participate. Boston's voluntary integration program took children from all grade levels, although the evaluation study sampled children from third through eighth grades only. The "program" of a bussing project is, of course, impossible to define and is almost totally dependent upon characteristics of the receiving school, about which there is generally little information. Hartford did include a systematic variation, which did not ultimately appear to affect the outcomes: proportions of both the bussed groups and the control groups who remained in ghetto schools were given a "Supportive team" consisting of one ghetto school teacher and one community paraprofessional, to provide remedial help, liaison with homes and special services, and resource material for the suburban classroom teachers.

The Hartford evaluation included testing of the two experimental and two control groups at four points over the 1966-8 period, using a wide variety of standardized intelligence, achievement, anxiety, attitude, and peer-acceptance measures. Although "serious gaps" in the first year data precluded their use, data are available on 197 bussed and 244 control children for the second year. The bussed children in grades K-3 showed greater progress on their WISC verbal IQ's, and on Primary Mental Ability scores (mostly verbal and reasoning subtests). Kindergarteners were superior in reading readiness (Metropolitan) scores, while third grade experimentals gained significantly more than controls in both reading and math. No experimental differences in intelligence or achievement scores were found for fourth and fifth grade children.

The evaluation of the Boston project is somewhat unique, although admittedly incomplete in late 1969, in its attempt to tap mediating factors which may account for differential performance between bussed and control subjects. A number of hypotheses, based on existing theory and research, were proposed, concerning differential characteristics of, and changes in, experimentals vs. controls. Selection and attrition factors, thoroughly documented, yielded a very small 1967-8 sample, with both pre- and post-test information available for 32 bussed and 18 control students. Further data were available on bussed children who had entered the project in 1965 (63) and 1966 (38). Unfortunately, academic achievement data (Metropolitan

stanines) are very shaky, and although there seems to be improvement, differential results may be due to statistical regression. A serious attempt was made to examine relationships between years in program and attitudes towards school, peer relations, fate control, self-image, aspirations, etc.; although it was not entirely successful, the study is worthy of note and of improvement.

Although neither study provides information on the instructional characteristics or even achievement patterns of the receiving schools, the Exodus report highlights the importance of studying the school atmosphere and the nature of the black child's reception and experiences. Project Concern, noting that the greatest impact occurred in the lower grades, nevertheless recommended continuation for upper-grade children based on favorable perception of their growth by teachers, their own expressed desire to continue to attend suburban schools, and their considerable participation in extra-curricular activities.

One alternative to bussing, for older children, is full-time residency in the more "advantaged" environment. Project ABC (A Better Chance) (Wessman, 1969) took outstanding male students from ghetto high schools who were highly motivated to achieve, and placed them in private preparatory schools after an eight-week summer transitional program on a college campus. The 82 boys who entered in 1965 had a mean IQ of 115, were 13-14 years old, and were composed of 70% blacks, 10% whites, 10% American Indians, 9% Puerto Ricans, and 2% Orientals. The summer program included very rigorous coaching in English, reading, and math skills; as with the bussing projects, no information about specific prep school programs is given. A high quality evaluation study examined the entering group and a control group of students using an exhaustive array of standardized academic and personality measures, interview schedules, and teacher ratings. Although the full range of data should be used for an integrated picture of the effectiveness of such an encompassing and costly program, only achievement results will be mentioned here. No mean change in the Otis IQ occurred after a year, although the control group mean dropped. Neither were any significant changes, or experimental-control differences, found in English achievement scores. However, 30% of the project sample showed distinct positive academic gains. The mixed results obtained are reported as status ratings, with percentages of students in each category. Achievement gains were associated with some background factors, and with IQ scores (significant correlations in the .40's and .50's). Responsible, sober, assertive, intellectually efficient, independently achieving individuals, according to the personality inventories, were the ones succeeding in the program. A notably high correlation (.56) was found between academic performance and social adjustment. Unfortunately, (perhaps predictably) a higher degree of anxiety seemed to go along with the prep school experience. Although there is not much indication of overall academic gain, results are mixed and varied,

and a good body of information is presented on the changes in and experiences of the A-B-C participants.

While it is encouraging to note that reporters and evaluators of comprehensive projects, such as those described above, see the need for including more descriptive and evaluative information than pre- and post-achievement scores, one wishes that program designers and research people would recognize the inadequacy of the latter approach in assessing any instructional effort.

2. Developmental Facilitation in Early Childhood

a. Programs with cognitive emphases

A large and continually increasing number of studies concerning preschool education define cognitive development as the core of the problem of the lack of success by young socially disadvantaged children in preschool and early elementary programs. The rationale generally goes as follows: Young children from low-income homes do not perform in preschool and early elementary school programs on a comparable basis with children from more economically advantaged homes; indeed, from the moment these children enter the classroom, they are behind their age-peers from higher social classes. Therefore, it is likely that the poorer children are not adequately prepared by their home environments for the learning processes demanded by the schools. Since these children's families have thus failed them, the educational system must reach them and provide a proper education as rapidly as is politically, economically, and pedagogically possible. Since these children show many obvious differences in language and cognitive style from their middle-class peers and teachers and since language and competent cognitive processes are the most obvious (although perhaps not the most important) prerequisites for school success, preschool programs should grasp this approach as the most direct and logical method to use to help prepare the disadvantaged child for school. The programs discussed in this section all have as their preliminary rationale that disadvantaged children exhibit serious cognitive deficits and that these deficits can best be corrected, or at the least ameliorated, by programs designed to deal directly with specific cognitive weaknesses.

In short, among the programs discussed in this section, there is an almost universal acceptance that cognitive malfunctioning lies at the heart of the disadvantaged child's problems and that this malfunctioning can best be remediated by methods focusing primarily, and sometimes exclusively, on the development of cognitive skills. Within this general framework are various hypotheses as to the major deficiency and most likely corrective procedure. Blank and Solomon (1968) contend that the major problem for these preschoolers is

their lack of a symbolic system by which to organize stimulation. Sprigle (1966) argues that what is important is for the child to develop flexible strategies for dealing with problems rather than to acquire factual content. Bereiter and Engelmann in their Academic Preschool (U.S. Office of Education, 1960) suggest that the crucial thing is for these children to learn at a rate exceeding the "normal" rate in order to catch up. Others look to language development as the critical factor while others hypothesize that the type of curriculum (e.g., formal vs. informal or a mix of the two) will be the telling agent.

Each of these programs has attempted to evaluate itself--and in a very similar manner. All but one have employed a pre-post test design with experimental, comparison, and/or control groups. Some have had complete control over the program input (e.g., Weikart) while others have had practically no control (e.g., Stodolsky). All have used standardized tests to measure input and output of children;* several have designed their own measures of affective development, a few have gathered ratings and comments from teachers and/or parents. More striking perhaps is that only four of these studies (Berger, Di Lorenzo, Stodolsky, Weikart) made any systematic attempt to observe and record what was actually going on in the project classrooms, and none ventured to determine development or success of teachers' performances by any means other than their pupils' achievement.

Length of treatment and follow-ups varied greatly among the studies, ranging from 4 months (Blank and Solomon) to 4 years (Di Lorenzo, Klaus/Gray) with most evaluations covering a 1-2 year period. Intensity of treatment was fairly uniform with most programs providing 2-3 hours 5 days per week. Sample sizes ranged from a low of 22 (Blank/Solomon) to a high of 1800 (Di Lorenzo) with most programs having a total of from 50-80 experimentals and controls.

Methods and results

Blank and Solomon (1968) evaluated "A Tutorial Language Program to Develop Abstract Thinking in Socially Disadvantaged Preschool Children." The treatment consisted of 4 months of daily 20 minute sessions in which teacher and child were alone together. The child was encouraged to use language, ask and answer questions, contemplate past and future, observe and discuss cause and effect relationships. Blank and Solomon emphasized their concern with "abstract thinking" as opposed to simple labeling. "...the child

* All used the Stanford-Binet, 9 studies used the PPVT, 6 the ITPA, 4 the Leiter, and 5 employed standardized readiness and achievement tests. Additional instruments were: Columbia Mental Maturity Scale (Deutsch), Piaget talks of conservation (Stodolsky), Perceptual Discrimination and Cognitive Skills (Berger), Pictorial Test of Intelligence (Oakland), Frostig-Visual Perception (Karnes), Preschool Inventory (Lindstrom and Tannenbaum).

who can label glibly is often deceptive, since his facile use of words gives the false appearance of understanding." When tested at the conclusion of the program, children who had received the treatment (daily individual tutoring) scored significantly higher on the Binet than children who had not been tutored. Behavioral improvements were also observed as well as "drastic" improvements in verbalization and a feeling of mastery by the children in dealing with educational tasks.

The keynote of the Bereiter/Engelmann program is to "teach in the fastest, most economical manner possible." Small group lessons in language, arithmetic, and music comprise the program. The teacher relies on group chanting, repetition of words and sentences, and negative and positive sanctions (egs., loss of food, additional work, praise). Children who had attended one year of a "traditional" preschool for 2 hours daily plus one year of public school kindergarten were compared with children who had attended the Bereiter/Engelmann program for 2 hours daily for 2 years. The latter scored significantly above the former on the Binet.

Sprigle's (1966) "Learning to Learn" program focused on just what its name suggests--an ability to approach and resolve problems. The program uses locally-developed games and planned sequences of game-like activities; these are sequenced from motor manipulation to perceptual imagery to symbolic experiences; guaranteed success is built in for each child. Children's independence from teachers is stressed. Monthly parent discussion meetings are held with emphasis on staff listening to parents. Daily staff planning sessions are conducted. At the end of one year's treatment, the experimentals were compared with children in a "traditional" kindergarten and with children with no kindergarten. The experimentals scored significantly higher than both other groups on the Binet, PPVT, and ITPA; the children in the "traditional" kindergarten did better than the children not in any kindergarten but their differences were much smaller than those found between experimentals and "traditionals." This significant difference between experimentals and controls on the three tests was maintained at the end of first grade; the difference between the "traditionals" and the no-kindergarten groups however, was now negligible.

Karnes' (1970) "Ameliorative Preschool Program" fostered language development through repeated verbal responses based on a game format (eg., lotto, classifying); all "self-expressive" materials were eliminated. When the Ameliorative Preschool children were compared with controls on California Achievement Tests, the former performed better. Two other interesting findings were reported: (1) children whose mothers attended meetings to learn how to teach their children at home did no better than children whose mothers were not involved and (2) experimentals taught by paraprofessionals did as well as experimentals taught by teachers.

The "Oakland Preschool Program" (American Institute for Research in the Behavioral Sciences, 1969) concentrated on informal dialogues and Language Master materials to improve language skills; manipulative materials to improve cognitive development; trip, music and science activities to stimulate curiousity; parent meetings and parent volunteers in the classroom; health and psychological support services. When the experimentals were compared with other children in their own kindergarten who had not attended the Preschool Program, the experimentals scored significantly higher on the Pictorial Test of Intelligence (note: the children who had not attended the Preschool had not been tested prior to kindergarten).

Deutsch's "Early Childhood Project," New York City (U.S. Office of Education, 1969) presented a structured sequential curriculum with stress on language development (listening centers, telephones, Language Masters); Sullivan Readiness Program, Stern Workbooks; self concept (mirrors, cameras); monthly parent meetings. Experimentals and controls were tested on a host of cognitive and affective measures, but due to problems of attrition, sample bias, inconsistency in use of tests, and poorly matched control groups, no clearly distinguishable trends were evidenced.

Lindstrom and Tannenbaum (1970) compared children who attended the Syracuse Children's Center full day program emphasizing cognitive and language development for 32-55 months with children in a summer Head Start. The Center children not only surpassed the Head Start children on the Binet, PPVT, ITPA, and Preschool Inventory, but also they were shown "to be functioning at levels which were at, or above, their chronological ages." Lindstrom and Tannenbaum attribute these gains to the combination of long-term attendance and emphasis on language and cognitive development.

"The Early Training Project" directed by Klaus and Gray (1968) used four comparison groups. Group I received a 10 week summer preschool with cognitive orientation for three summers plus 3 years of weekly meetings with a home visitor during the school years. Group II attended preschool for two summers and had two years of home visits weekly. Groups III and IV respectively were a local control group with no treatment and a control group 60 miles away with no treatment. The preschool program emphasized verbal interaction, elaborative language code, perceptual discrimination, concept formation, immediate reinforcement, development of motivation, persistence, and delay-gratification. The home visits were made by teachers with the purpose of keeping parents informed, gathering information, and setting educational role models for the parents. The five year follow-up of the Early Training Project reports the experimentals performing significantly higher than the controls on the Binet and WISC, although Groups I and II did not differ significantly from each other. The experimentals also outperformed the controls on the PPVT and ITPA, although in the second year of public schooling the advantage on the

ITPA was lost. The experimentals performed better on achievement tests, although to a significant degree on less than half the tests. The experimentals were also shown to be significantly more reflective as compared with the controls. However, no differences were exhibited on self-concept, delay of gratification, or achievement motivation. The conclusion pointed to modest gains maintained over a four year period. The Project's seven year follow-up showed that by 4th grade there was still a significant difference on the Binet between experimental and control children but that all differences on the ITPA and PPVT had disappeared.

Stodolsky and Jensen (1969) studied middle class and lower class children attending a Montessori school. The program stressed perceptual and sensory discrimination and development of attention and task interest in a racially and sex mixed setting. No significant improvement was found on the Binet by disadvantaged children attending the program for two years; teacher ratings showed no improvements either. Some interesting sociometric data was reported: "Social class was an important factor in the choice of friends...middle class children increased their friendship choices across social class lines while lower class children decreased in cross-class choices."

Berger (1969) studied two other Montessori programs and compared them with "traditional" prekindergarten programs. A trend toward better performance on perceptual discrimination skills was noted for the Montessori children; the increase "was chiefly notable for the children showing minimal perceptual skills." Both groups made gains--roughly comparable--on the Binet. No clear trends were noted on performance of cognitive tasks; indeed, controls performed better in some cases than did the Montessori experimentals. Berger concludes that the main variable in all projects is the teacher and not what the curriculum or such may be labeled. "Pupil outcomes are largely dependent upon the individual teacher's mode of structuring the classroom environment, her teaching preferences and capabilities and the resultant learning press." Certain characteristics were consistently associated with achievement: oral language stimulation by means of teacher's informal dialogues with children, an environment including imaginative outlets plus cognitive training, flexible and open-ended instructional transactions. "Children's response patterns showed initiation of exploratory activity and curiosity to be negatively related to mechanistic instructional styles."

The "Longitudinal Results of the Ypsilanti Perry Preschool Project" (Weikart, et. al., 1970) describe the effects of two years (½ day for 6 months per year) of a cognitively-oriented preschool plus weekly teacher visits to the home for a 90 minute instructional session. The preschool emphasized verbal stimulation and interaction, "verbal bombardment," sociodramatic play, and field trips. The Perry Preschool children scored significantly higher on measures of cognitive performance than a control group; this superiority disappeared

by the third grade. The Project children also scored significantly higher on achievement tests in elementary school than did controls and maintained this significant difference throughout the years of follow-up, including third grade. The experimentals received better ratings by elementary school teachers in academic, emotional and social development than did the controls; this difference was maintained throughout the follow-up. Weikart attributes these results to: (1) "The use of a theory-based (Piaget) curriculum permitted commitment to a specific framework which set limits for classroom operation and provided a challenge to teachers to select appropriate activities, to match their program with desired outcomes, and to direct the total classroom operation toward support of the theoretical goals." (2) Staff planning, team teaching, and teachers' commitment. (3) Teachers were supervised by an experienced teacher and by a member of the research staff. (4) Involvement of mothers in the educational process combined with teachers' focusing on children during home visits. (5) Heavy use of language.

Weikart (1969) also conducted a "Comparative Study of Three Preschool Curricula" for functionally retarded disadvantaged children. Children in group I were given a "unit-based" curriculum emphasizing social-emotional development and a considerable degree of permissiveness. Children in group II were provided a "cognitively-oriented" curriculum developed by Weikart and emphasizing "verbal bombardment" and socio-dramatic play. Children in group III were given the Bereiter/Engelmann language training curriculum. Children in all groups received a 90 minute home visit teaching session every other week. Testing on the Binet after one year's treatment showed no differences--all children gained substantially and more or less equally. Teacher ratings also showed no significant differences. Weikart concluded that: "The choice of a curriculum framework is only of minor importance as long as <u>one</u> is selected... Either the mechanical application of a specific curriculum or the busy concern with administrative procedure that any program operation entails will doom a project to failure... The process of creating and the creative application of a curriculum, not the particular curriculum selected or developed, is what is essential to success." Weikart recommended that programs: (1) include opportunity for teachers to think intensively about each child; (2) include mothers in the educational process--"create an atmosphere of support for intellectual growth in the home;" (3) allow each individual to be creatively involved in the total operation--"the human involvement of concerned teachers and staff is the key element in program success."

Di Lorenzo (1969) compared half-day preschool programs operating in eight districts in New York State. He describes them as varying from highly structured and cognitive in orientation to loosely structured and "early childhood" oriented. The children in cognitive oriented programs performed better than controls who did not attend preschool on Binet, PPVT, ITPA and on achievement tests given at the end of

kindergarten and of first grade. However, children in early childhood oriented programs did no better than controls. Neither cognitive nor early childhood programs improved the self-concept or physical development of experimentals over controls.

Nedler's study (1970), "Early Education for Spanish Speaking Mexican American Children," compared three treatments for disadvantaged children whose primary language was Spanish: (1) Daily three hour bilingual program of carefully sequenced instructional activities (curriculum developed by the Southwest Educational Development Laboratory) emphasizing language, perceptual skills, problem solving, and self concepts; (2) Parents of children in this group met regularly with the staff to discuss, in Spanish, issues of child health, nutrition and education; (3) Children in this group attended a "traditional" program for ten hours daily in a day care center; here Spanish was permissable but not emphasized. Pretests found that on a nonlanguage test of intelligence, these disadvantaged children performed at levels well within the normal range but that on a language test, they scored below national norms for middle-class children. Posttests showed that children in group I made significant gains in performance on the Leiter and PPVT whereas children in the other two groups made modest or no gains.

The studies cited in the preceding discussion are by and large more carefully and scientifically designed and implemented than many others in the field of compensatory education research. Still, many serious problems remain that must be considered both when interpreting the results of the studies and when planning future projects. (1) In several studies, sample size is so small that results should not be widely generalized. (2) In many of the studies, the test of outcome was inappropriate, either because it was only distantly related to the objectives of the program or because it too closely approximated the program's curriculum. (3) In almost all of the studies, the treatments (of experimentals and/or controls) was inadequately described. One very common weakness was to label "traditional" (Di Lorenzo calls it "early childhood") anything not whatever it is the experimental treatment is offering. What is this strange entity, this mysterious "traditional" program? Somewhere lies the implication that the "traditional" nursery school means a concentration on social-emotional rather than cognitive development, but no one seems willing or able to define clearly and specifically what this means operationally. How can two programs be compared when both are not described? Secondly, just because we have the lable "perceptual discrimination" activities or "bilingual" materials, how do we know what actually went on? In short, observational data is sorely lacking.

b. Infant studies

At least three factors have led to the growing interest in infant research. (1) The availability of evidence that preschool programs

have been able to improve, however slight, the cognitive performance of disadvantaged children has reinforced the belief that early childhood is indeed a crucial period of development and may in fact be the most effective time period in which to try to influence development. (2) The understanding that the greater percentage of development has not only taken place by the time the child reaches school age but that it has probably occurred before his third birthday (observing the 4-5 year old in preschool programs, we cannot help but see that his personality as well as his learning style has been established to a great degree). (3) The enormous need for child care facilities for children of working mothers had led to the necessity of defining appropriate means of dealing with these children in group settings.

Dusewicz and Higgins (1971) summarize the status of the results of research in this area to date: "Although experimental evidence exists in support of the hypothesis that appropriate supplementary experiences at an early age can result in considerably rapid and significant increases in behavioral development among children from impoverished environmental conditions, by far the majority of such programs have met with only marginal success due to a variety of reasons principal of which seem to be: failure to concentrate on the language development of these children, and starting too late. The question remains, however, as to how early in the disadvantaged child's life intervention should take place in order to maximize the effectiveness of such a program."

The infant studies cited in this section attempt to determine appropriate age ranges for intervention, what kinds of training should be tried, and how infants respond to such training.

The study dealing with the youngest group of children--1-6 months of age--is White's (Hess and Bear, 1968) "Informal Education during the First Months of Life." This study had three concerns: (1) the tracing of development of the major sensori-motor abilities (eg., visually directed reaching); (2) the identification of environmental or experiential conditions which seem relevant to these abilities; (3) the determination of whether early development is significantly dependent upon rearing conditions. White found that many visual-motor processes were remarkably plastic, that the rate of development of behaviors were able to be systematically accelerated and retarded, and that changes were of striking magnitude. In addition to these findings, White makes two other important points. The first is his plea for extensive observation before researchers begin their theorizing; he is calling for inductive theorizing which he feels has been all but absent in the field. Secondly, he answers the oft-brought-up criticism that changes brought about in a youngster are meaningless unless they can be seen to still exist several months or years later. "In education, one doesn't expect to provide instruction to a 6 year-old for six months and then find profound consequences at age 18. We assume that education is a continuing, long-term process.

We therefore attempt to design the interventions of each succeeding year so that they mesh with prior events. Furthermore, we recognize the cumulative nature of the process.".

In "A Comparative Analysis of the Piagetian Development of Twelve Month Old Disadvantaged Infants", Honig and Brill (1970) had three objectives: to change the cognitive processes available to the child, to speed up the acquisition of these processes, and to help generalize the applicability of a cognitive schema to new sets of stimuli. Their population consisted of 16 black 12 month-olds who attended a ½ day program at Syracuse Children's Center for a mean length of 84 days and 16 black 12 month-olds who received no treatment. The experimental infants were in a program which provided 1 teacher per 4 infants, which had the teacher responsible for "care, loving, and lessons," which emphasized language skills, and which gave the teachers intensive training with emphasis on Piagetian concepts and tasks. When the experimentals were compared with the controls after six months, the experimentals scored significantly higher on tests of Piagetian tasks and scored higher than, though not significantly, the controls on the Cattell.

Painter (1969) studied "The Effect of a Structured Tutorial Program on the Cognitive and Language Development of Culturally Disadvantaged Infants." She points out that "Research studies have shown that although significant differences are not found between infants of differing cultural background by the age of 15 months, such developmental deficits are well established even by age three years." Painter's population consisted of 10 experimentals, aged 8-24 months, who received individual structured intellectual stimulation within their homes for one hour a day, 5 days per week for one year; this stimulation emphasized language and conceptual development. 10 matched infants, 8-24 months old, received no treatment. Results showed the experimentals scoring significantly higher on the Binet, higher but not significantly on the ITPA and Merrill-Palmer Mental Tests, and higher-about ½ significantly higher-on conceptual development tests.

Schafer's "Infant Education Research Project" (U.S. Office of Education, 1969) hypothesized that disadvantaged children develop progressively greater deficits in intellectual functioning during the period from 15 months-three years, the period of early verbal development and that this is particularly because of lack of verbal stimulation. 28 Negro male infants, 15 months of age at the beginning of treatment, were tutored in their home 1 hour per day for 5 days per week for 21 months. The tutoring emphasized verbal development and concept formation; the tutor talked with the child, showed him pictures, taught new words, played games, read books. Participation of the mother was encouraged but not required. When these experimentals were compared with 30 matched controls who received no treatment, testing showed that as instruction passed, experimentals grew increasingly superior to controls; significant differences were shown on the PPVT, Johns Hopkins Perceptual Test, and the Binet.

Dusewicz and Higgins' study (1971) "Toward an Effective Educational Program for Disadvantaged Infants" compared 36 children, 19-28 months, in two different treatment situations. The first group received 70 minutes weekly of tutoring in their homes. The second group participated in a four hour daily cognitive enrichment program (away from their homes) emphasizing massive stimulation with the aim of developing acuteness of sensory perception and discrimination. After 125 days of treatment, the two groups were tested. Both groups had improved considerably, but the second group (in the Center cognitive program) scored significantly higher on the Slosson Intelligence Test and on the PPVT. Another finding was that age of subject was not a significantly related factor in gains, suggesting "that for the type of program utilized in the present study a limit has not as yet been reached here as to how young the youngest can be and still demonstrate gains comparable to his older counterparts."

Caldwell et al. (1970) report on "Infant Day Care and Attachment," a study to determine whether there were basic differences in the strength of attachment in a group of day care and a comparable group of home reared infants. 18 infants were provided a daily day care program at the Syracuse Children's Center, a program which aimed to create an environment fostering optimal cognitive, social and emotional development; enrichment was provided in a context of emotional warmth, trust, and enjoyment. These infants were in the program for a mean duration of 18.8 months. The comparison group was composed of 23 children with no day care experiences. Tests employed included an intensive semi-structured interview with mother and child, a home visit including an inventory of home stimulation, the Binet or Cattell, and behavior ratings of **affiliation** hostility, dependency, etc. Results showed no significant differences on any of the ratings of child's relationship with mother or of child's attachment to mother or mother's attachment to child. Childrens' developmental level bore little or no relation to strength of maternal attachment. There was a definite suggestion though that the better developed infants tended to be more strongly attached to their mothers. The authors pointed out that these findings held true for their type of program only and should not be generalized to just any kind of day care. However, they stressed that "The implicit equation of infant day care with institutionalization should be put to rest. Infant day care may be like institutionalization, but it does not have to be."

"Project Know How" (Dunham, 1969) is a family-centered program of action and research aiming to stabilize families by reinforcing the members in normal familial roles and to normalize the intelligence of the offspring by providing a sufficient level of adult attention and intellectual stimulation. 45 white and 45 black families with children one year of age are admitted each year and retained until the child enters public school. One third of these families make up the experimental group, the remaining families are the middle class control and the lower class control groups. The treatment for the experimental families is fourfold: (1) a preschool training program

for the children, emphasizing verbal and environmental stimuli, (2) an assisting mothers program with a curriculum intended to change the mother's behavior in the direction of a strong positive influence on the child's intellectual development, (3) a father's program providing crisis counseling, occupational training and placement, and education, (4) health education and care. Interim results show large differences in intellectual test scores at entrace age; the mean IQ of the lower class black children did not increase as did the middle class whites. After 14 months in the project, mothers showed clear changes in their food preparation behaviors; 58% of the experimental fathers have enrolled in occupational or general educational programs whereas none of the controls have.

Gordon's (1969) "Early Child Stimulation Through Parent Education" was designed to determine if the use of disadvantaged women as Parent Educators of indigent mothers of infants would enhance the development of the infants and/or increase the mother's competence and sense of self-worth. The population consisted of 216 families with infants 3-24 months of age plus 60 control families. Experimental mothers were instructed by paraprofessional Parent Educators in stimulation exercises and concomitant attitudes. The stimulation exercises related to object permanence, eventual conservation, labeling and had as goals cognitive growth and development of feelings of adequacy. Results showed: (1) Children whose mothers were in project were superior to control children on the Griffiths Mental Development Scale and on locally developed teaching materials. Children with mothers in the project from the beginning or who entered when the child was one year old were superior on the teaching materials to controls at age 2, but children of mothers who had only the first 9 months (age 3-12 months) were not. (2) Experimental mothers felt they had more control over what was happening in their own lives than when they entered project. (3) Sex role expectations and mother's view of how well her child matches her ideal influences child's performance, verbal interaction within home relates to mother's view of control and child's performance. (4) Vast differences in child rearing practices exist among poor families. In addition, Gordon concluded that "it is not the curriculum materials per se which make the difference, but that the nature of the interpersonal relationship and the manner of delivery are of significant importance in learning."

c. Programs with multiple emphases

The program most notably associated with multiple, and sometimes varying, emphases has been Project Head Start. Its emphases have been multiple and varying both because it was designed that way (with major concerns including cognitive development, affective development, and physical and nutritional development of the child, parent involvement and change, community involvement and change) and because the

program was implemented by thousands of different people in thousands of different settings. Thus, no such thing as Head Start per se ever existed. Instead, there were numerous interpretations of what Head Start should be and did in reality become. However, the one thing that most centers did have in common was their avowed concentration on not one but all aspects of a child's growth--as well as concern with his home and community.

In the same way that Head Start programs varied from center to center, so did evaluations of Head Start vary. Findings have been quite mixed but in every case dependent upon the particular program under study. Few attempts were made to assess the entire Project as a whole. The Westinghouse study was one exception.

The Westinghouse Learning Corporation (1969) conducted an ex post facto study focused on the question: "Taking the program as a whole as it has operated to date, to what degree has it had psychological and intellectual impact on children that has persisted into the primary grades?" The sample consisted of children from 104 Head Start centers who at the time of testing were in 1st, 2nd, and 3rd grades. In addition to testing the children, parents and directors were interviewed and primary grade teachers were asked to rate the children. The results showed that: (1) Head Start children who had attended full year programs and were beginning grade one were significantly superior to controls on Metropolitan Readiness Tests; (2) neither Head Start children from full nor summer programs and currently in second grade, were significantly superior to controls on the Stanford Achievement Test; (3) Head Start children were not significantly superior to controls at any grade on the ITPA; (4) no differences appeared on the Children's Self-Concept Index or on teacher ratings of desire for achievement; (5) parents voiced strong approval. Analyses for subgroups of the national sample, concerning full year programs, "revealed a number of statistically significant differences in which, on some measures (mostly subtests of cognitive measures) and at one or another grade level, the Head Start children scored higher than their controls. There were consistent favorable patterns for certain subgroups: when centers were in the Southeastern geographic region, in core cities, or of mainly Negro composition."

One of the few Head Start studies not focused on children was the Conners and Waller (1966) study of "Beliefs, Attitudes and Behavior of Teachers of Head Start Children." 31 teachers of the 1965 Baltimore summer Head Start program were asked to state their beliefs on education, welfare, the American way of life, etc. "It was found that about two thirds of the sample obtained the most concrete and authoritarian type of belief system, while the remainder emphasized beliefs based on friendship, interpersonal relations and the reactions of other people. These two types of teachers were significantly different on a measure of attitudes about teaching...(the) majority of the teachers in the Baltimore Head Start Project were classified as

being at the concrete end of the continuum in their belief systems. As described by Harvey et al. (1966), this type of belief system tends to: be simpler, be more prone to polarized evaluations, depend more on authority..." These teachers left the classroom more often than "abstract" teachers, talked to adults rather than children, and indulged in behavior unconnected with teaching.

A series of seminars involving researchers, practitioners, and administrators and focused primarily on Head Start was reported by ETS (Grotberg, 1969) in "Critical Issues in Research Related to Disadvantaged Children." Several suggestions for Head Start program modifications were made: intensification of family involvement and emphasis on strengthening enduring emotional ties between child and family; use of older children with younger children in and out of school; heterogenous grouping; establishing programs in a school or a center rather than having isolated classrooms; invitations to community models to visit the classrooms. Some good reviews of research in this area are found throughout the document. Several points are stressed; among them: research provides evidence that "parents influence the intellectual, affective, and interaction patterns of their children by the nature of the parent-child relationship." Areas of needed research are discussed; two of these are: the need to examine behaviors of teachers and students (not always planned for) which arise from the "activity settings teachers provide," and "Recurring emphases on the relationship of nonpunitiveness, acceptance, and indirect control to improved student performance suggest that more attention ought to be given now to enable teachers to develop and use such styles with skill."

A different kind of multi-faceted program is that reported on by Lally and Smith (1970), "Family Style Education: A New Concept for Pre-School Classrooms Combining Multi-Age Grouping with Freedom of Movement Among Classrooms." This full day program provides children with "daily contact with other children of varying ages similar to the contacts that are typical in family settings." Also, the children are free to move among several rooms, each with a specific function-egs., the large-muscle room, the sense-perception room, the creative expression room. Preliminary testing shows no rise nor decline on the Binet nor PPVT. Teacher reports of children are very positive, noting increased verbalization, improved self-concepts, peer teaching.

d. Studies utilizing mass media and technology

Perhaps the most well-known use of technology to reach preschool children has been in the field of television. Children's programs have been on the air for years now but have never been formally evaluated for their educational input. "Sesame Street," funded by the federal government and private foundations as a non-profit enterprise, is the first children's TV program to be the focus of deliberate

attempts to assess its impact. Numerous articles and informal surveys have attempted to evaluate one or another aspect of "Sesame Street", and one formal study has tried to test how well the show is doing in teaching those things it was most intent on getting across to its viewers. The latter study, "The First Year of Sesame Street: An Evaluation", was carried out at ETS (Ball and Bogartz, 1970); it focused on the following questions: "Do 3-through-5-year-old children who view Sesame Street at home or in classrooms learn more than comparable children who do not view the show? ...what characterizes the children who learn most and least from the show? ...what elements in the show seemed to be most effective?..." The population studied was mostly East Coast children in either of four categories: educationally disadvantaged inner city, educationally advantaged suburban, educationally advantaged and educationally disadvantaged rural, educationally disadvantaged Spanish-speaking. Sites chosen for study were not representational, rather they contained children of interest to the Children's Television Workshop (the producers of SS). Instruments included tests of skills taught by SS (egs., Body Parts, Letters, Forms), a parent questionnaire, records of amount of SS viewing, observations of children in classrooms where SS was being used, frequency analyses of the content of SS shows, and a teacher questionnaire. Results showed that "those children who watched SS more than 5 times per week performed better on pretests than those who watched little or no SS;" that when children were not encouraged to watch SS at home, 50% watched once a week, twice a week, or not at all; children in Head Start programs who were encouraged to watch SS nevertheless did not watch frequently; that for children who watched SS the most, Educational Television Network viewing was an already established habit at pretest time; that children who watched SS the most came from families with a positive educational climate and had more personal property than children who watched less. For the total sample there was improvement on recognizing letters, reciting the alphabet, recognizing and naming forms and numbers, but no improvement on tests of Initial Sounds. For the disadvantaged sample (731 children), results showed that the more the children viewed SS, the more they gained on tests. However, the disadvantaged sample watched SS less than the advantaged sample; of a total of 433 disadvantaged children rated, only 82 watched SS a lot whereas 127 watched it very little.

Another example of the use of educational technology with preschool children is the "talking typewriter," discussed briefly in the previous section. The talking typewriter was co-invented by Moore and Kobler and is in production under the name of the Edison Responsive Environment. "One of the things for which it was designed was to enable a person with no knowledge of a particular natural language to learn both the spoken and written forms of that language." One basic way of using the machine is the following: "The machine is set so that the user may strike any key, after which the keyboard

locks until the voice-box gives the user the name and/or the phonetic value of the character. Arrangements can be made such that if the machine names a letter-or gives its phonetic value, or both-only the appropriate key can be activated, the rest of the keyboard being locked...The machine can be reset so as to display some word, perhaps with an appropriate picture on a screen to the right of the keyboard." The authors have reached some preliminary conclusions on the ERE: (1) The primary and secondary effects of using the ERE are positive and at the least have led to no untoward side effects; (2) speed of learning reading and writing seems positively correlated with the maturity of the child's speaking-listening abilities; (3) children who enter with high scores on IQ and excellence of speech tests do better than those who enter with lower ones; (4) the younger the starting age the better.

3. Guiding and Utilizing the Affective Development of Children

As suggested above, the objective of almost all existing compensatory education programs is either to change the educationally disadvantaged child's intellectual or cognitive ability or to raise his achievement level so that he is meeting the requirements of his school grade level. Given the social and economic rewards of intellectual and academic success in our society, it would seem logical that these programs would intervene to compensate for the disabilities of socially disadvantaged children in these areas. However, from the very beginning, most compensatory programs have attempted to enhance or manipulate the student's motivation attitudes, self concept, or aspirations. For example, the clearly articulated primary objective of the New York City Higher Horizons (Wrightstone, 1964) one of the first compensatory programs, imitated throughout the second half of the 1960's, was to raise the educational, vocational and cultural aspirations of socially disadvantaged junior high and high school students by means of extensive guidance series, cultural enrichment, teacher re-education and other strategies which have the potential for affectively supporting the child.

Researchers have found that affective support is a crucial variable in the learning of a disadvantaged child. In his research on the effect of desegregation on black students, primarily at the college level, Katz (1967, b; 1968) has found that Negro students who had been average achievers in high school were discouraged about being evaluated by a white person except when they were made to feel that there was a chance that they could be successful. The white evaluator in Katz's researches is analogous to the white teacher in a desegregated school; what Katz seems to be saying is that the black, usually lower class, child is more dependent than the white middle-class child on the immediate school environment for rewards. Katz and others have formulated that black students fail in school because

they have been inadequately socialized toward self-directed learning by punitive experiences either in the home or school, two significant socializing agents for the child. The child, as a result, becomes self critical and tends to avoid stimuli associated with failure and negative reinforcements. Katz also suggests that the high, unrealistic aspiration that researchers have found socially disadvantaged children artículate is possibly an "adjustment to failure." Then, if the child finds that he cannot achieve according to his sense of his own abilities, he becomes increasingly demoralized and tends to avoid situations where he can fail. Katz posits that in desegregated classrooms which systematically offer positive social reinforcement, the black child can measure himself against more academically successful white children without becoming demoralized and, thus, can gain a more accurate self concept. In such a classroom, the child can gain the self-control or self-regulation by which standards of excellence are internalized and, thus, will be better able to achieve.

It has also been suggested that a predisposition toward a sense of personal control of the environment is strongly associated with scholastic achievement. Coleman and his coworkers in Equality of Educational Opportunity, (1966) found this sense of control related to academic achievement in both whites and blacks. They measured three types of student attitude relevant to academic motivation: interest in school work, self concept of ability, and the student's sense of his own control of rewards. They found that for black students sense of control contributed to variance in verbal achievement at different grades two to several times as much as any of the other two determinants of student attitude. Moreover, the correlation between sense of control and achievement was stronger than that of any family background factor and achievement. The Coleman Report indicates that for blacks sense of control was little influenced by home or school factors; the only factor which seemed to affect it strongly was the proportion of white students in the school: as white students enrollment increased the blacks' sense of control grew stronger. Despite the extensiveness of the Coleman Report, its findings are based on empirical correlations, and the relationship between sense of control and other attitudinal and motivational factors and academic achievement can only be inferred.

Either from a lack of knowledge about how to manipulate these factors or from a skepticism about their importance, planners of compensatory education programs have tended to relegate intervention into the affective domain to a secondary role. In their influential surveys of exemplary compensatory education programs, Hawkridge and his associates (1968-69) discounted any programs which successfully improved the child's attitudes, motivation and self concept. The descriptions of the programs they identified highlight various curricular and instructional strategies for bringing about positive cognitive or academic changes which are measurable by traditional instruments.

There is, however, evidence that the crucial variable in such programs is not the nature of curriculum or instruction alone, but rather the program's input in the affective domain.

Zigler and Butterworth (1968), in their study of the motivational aspects of changes in the intelligence test performance of disadvantaged nursery school children point out that a number of markedly different interventions all result in significant improvement in IQ test performance--as the Hawkridge survey later confirmed--and suggest that this may reflect the common impact that such programs have on the noncognitive factors which they maintain also influence a test score. In their study, an experimental and a control group of low socioeconomic status nursery children were tested twice at the beginning of a school year, first with a standard test procedure and next with a text procedure designed to optimize the child's motivation to perform well. After a year of preschool activities designed to ready them for kindergarten, including many pleasant and positive adult contacts, the experimental children were retested with both the standard and the optimal test procedures. It was found that they did not show a significant improvement over the control group in optimal IQ from fall to spring; however, their standard IQ in the spring rose significantly at the .05 level toward the fall optimal IQ. It would thus seem that there were no changes resulting from the cognitive-achievement factors of the program--for this to have been so their optimal score would also have had to improve--but, rather, that the improvement was a result of the program's motivational components. The investigators maintain that the primary benefit of such a program is thus not to increase the child's rate of formal cognitive development, but rather to motivate him to use the intelligence that he already has. By appealing to the need of disadvantaged children for the praise and attention of adults, this program seemed to reverse the syndrome associated with disadvantaged children, of being less motivated for the sake of correctness alone and of being willing to settle for lesser levels of achievement than middle class children, and thus was able to socialize the children to the role of the successful student who can advance in school because of his desire and capacity to optimally perform in test situations.

There was a similar outcome in a high school tutorial program in Baltimore (Hagan, 1970). In the summer of 1967, Johns Hopkins University began a tutorial program designed to encourage inner-city secondary-school boys about to enter their junior year to finish high school in a way that improved their chances of entering college. For five days per week over a six-week period for two summers the boys received instruction primarily in mathematics and reading. Every other Saturday during the school year the boys met at the University but received no formal instruction. A control group was designated who had had none of these experiences. It was found that there were no differences between the tutorial and control boys on achievement as a result of the program, and as a matter of fact,

the grades of the tutored boys did not improve. However, as measured by a semantic differential, the California Personality Test and a composite of teachers' ratings, the attitudes of the tutored boys toward school were more positive than those of the control group. After high school, 82 percent of the tutored boys went to college while only 18 percent of the controls did. What seemed to have occurred is that the tutored boys became more motivated to continue their education, and thus were more likely to obtain the credentials that are needed for social and economic success.

As is unfortunately the case with reports of compensatory education programs, information about the treatment in this tutoring program is scant; one does not know, for example, how much social reinforcement or encouragement the experimental group received during the summer tutoring sessions or the Saturday meetings. What is more, although the teacher who headed the tutoring program selected the experimental subjects after having researched their attitudes toward school, there was no pretesting of attitudes, and so it is difficult to evaluate the changes which may have occurred.

The fact remains, however, that those students who have positive feelings about education have a greater opportunity for school success. Quite early in the compensatory education movement Davidson, Greenberg and Gerver (1962), in their study of successful and unsuccessful school achievers from low-income areas, found that the cognitive functioning of the two groups did not differ markedly, but in personality and motivation they were quite different. This finding would seem to suggest that positive intervention in the affective domain could enable the academically unsuccessful disadvantaged child to utilize his cognitive and intellectual abilities, which is likely to be adequate for scholastic success, despite contentions of Jensen and other researchers.

The most noteworthy instance of the direct compensatory intervention in the noncognitive factors of learning in a school environment is the research program reported by Rosenthal and Jacobsen (1968) in Pygmalion in the Classroom. To test the hypothesis that the expectations of teachers affect the intellectual development of their students, the investigators administered a group intelligence test to eighteen classes of children about to enter grades one through six. The teachers were told that the test could predict potential "spurters" (actually a fiction), and were given the names of several children who were expected to make unusual gains. The students (20 percent of the children) were randomly chosen, and in reality were no different from their peers. After one year the experimental group of children had gained an average of twelve points while the control group had an average gain of eight. Teachers were asked to discuss their students at the end of the year, and despite the gains of the control group children, rated them less favorably.

Rosenthal and Jacobsen argue that these data demonstrate that the teacher's expectations of his student's success is a self-fulfilling prophesy for the student. Since the publication of his study, a number of critics (Barber and Silver, 1968A; Thorndike, 1967, 1968; Cephart and Antonoplos, 1969; Snow, 1969) have suggested that the data gathering methods, the techniques of analysis, and the presentation of the data are not sufficiently rigorous to warrant the kind of generalizations the investigators have made. Replications of Rosenthal's experimental methods at Pygmalion's Oak Park School have failed to demonstrate the universality of the impact of teachers' expectations on student academic performance (Barber, et al., 1969; Claiborn, 1969; Fleming and Anttonen, 1971). However, no critic of the study denies the importance of the "natural" effect of teachers' expectations on students' classroom performance; they are questioning whether Rosenthal has convincingly demonstrated how "artificial" manipulation of teachers' expectations can produce increased IQ performance. The failures to replicate the findings of the study show that, for the most part, teachers respond to the daily inputs of their students, even when their expectations about their students' performances have been raised. Again, this is not to say that the attitudes and behaviors of the teachers do not affect their students' inputs; it suggests, however, that the teacher's expectations are not likely to be altered by a student's score on a test given on one day when the teacher has the opportunity to observe the student daily over a long period of time.

Even if the data and findings of the Pygmalion study are accepted, Rosenthal and Jacobson demonstrate only that their hypothesized expectancy effects exist; they, however, do not describe any of the events intervening between the inducement of greater expectations and the administration of their criterion post-test. The investigators' interest in this study seems clearly to collect data to document their hypothesis that students fulfill the expectations of their teachers by responding to the behaviors which reflect their teachers' attitudes, and not to observe and collect data on the behaviors themselves. However, in order for this study to have impact on future educational practice, it is necessary at least to consider what may have occurred in the classroom. It is likely, for example, that the teachers' altered expectations encouraged them to positively interpret their students' ambiguous behavioral cues. The teachers' own behavioral responses may have taken the form of smiles or pats of encouragement which would be positive reinforcement of any of the students' efforts, no matter how ambiguously correct. In an observer study of the experimental analysis of the effect of teacher behavior on the classroom behavior of disadvantaged adolescents in Tennessee (Cormier, 1970), it was found that the use of praise and attention as an immediate consequence of a desired relevant pupil behavior increased the frequency and duration of the desired behavior; however, it was also found that both noncontingent as well as contingent praise effectively increased the relevant behaviors of the students. The

second finding would seem to suggest that a generally supportive classroom environment can stimulate the desired behaviors that students because of prior experience may not consistently demonstrate.

An additional finding of interest in the Rosenthal and Jacobsen study was the IQ gains of the controls; although their gains were not as great as those of the experimentals as a group, in some individual classrooms they gained as much as some of the experimentals. Why this occurred is not clear; however, although the attitudes of teachers toward the control group were generally negative, it would seem that the interaction of the controls with the experimentals, who were likely receiving positive reinforcement from the teachers, may have been almost as potent a factor in motivation to achieve as the positive response of the teacher. From a research point of view, it can be argued that the controls were "contaminated" by their classmates with whom they interacted daily, and thus ceased to be a reliable control group; however, the fact this is so suggests that whatever occurred in the classroom had a diffusion effect, and from a program point of view is an important finding. The Tennessee study noted above, for example, also found that the non-contingent and contingent praise and attention to the target subjects generalized and increased the relevant behaviors of non-target students.

Both of these studies at least suggest that teacher behaviors are factors in creating the reinforcing classroom environment needed for disadvantaged students to learn. What is needed is more research which isolates the teacher behaviors and the classroom conditions which are most supportive of the child's maximum performance.

While there is evidence to show that a socially supportive classroom can stimulate desired educational behavior, many learning theorists have long argued that a tangible reward or punishment in a highly structured environment is virtually indispensable for inducing rapid and enduring changes in behavior, particularly motivation to repeat a particular behavior. Many small-scale research studies of preschool learning of cognitive tasks have shown that it is possible to move a child along a developmental continuum by offering immediate concrete rewards for a task successfully performed and thus to reinforce the behavior required for performing that task. In most classrooms it has seemed to be impossible to have a person continuously monitor a child's behavior. However, in recent years there has been independent interest in the development of programed instructional materials so that the reinforcement for the successful completion of a task would be built into the material itself and not dependent on an outside monitor. A noteworthy use of these programed materials has been in Project CASE II: MODEL (Contingencies Applicable to Special Educationally-Motivated Oriented Designs for an Ecology of Learning) (Cohen, 1967) with twenty-eight incarcerated male juvenile delinquents, 85 percent of whom had been school dropouts, with an

age range from fourteen to eighteen and an average IQ of 93.8. Case II was based on the idea that each learning experience should have built into it a series of reinforcing steps to maintain the students' interest. This meant, first, an extrinsic immediate reinforcement in the form of money. Students worked on 140 programed educational courses in 18 programed classes. When they performed on tests at 90 percent or better, they were paid off. With his earned money, the student provided for his room, food, clothing, gifts and an entrance fee and tuition for special classes. After one year of the treatment, it was found that the IQ gains of the students averaged 12.09 points. For only 90 hours of academic work there was an average increase of 1.89 grade levels on the Stanford Achievement Test and 2.7 grade levels on the Gates Reading Survey. One would have to assume that the program motivated these students to achieve and "re-socialized" them toward the role of a student.

In essence, a structured educational environment was created for the students which provided both tangible and social reinforcement -- the student's social success was dependent on his academic achievement. This total ecological approach to educational therapy has not been widely imitated although it suggests concrete ways in which an educational environment can be designed to promote achievement.

Several compensatory tutorial programs have provided potent models to increase a student's opportunity for learning not through positive identification with and support from an adult-teacher, but rather an identification with and support from a peer.

In the Homework Helper Program (Cloward, 1966) in the low-income areas of New York, experimental students in grades three to six (50 percent Puerto Rican and 30 percent Negro) were tutored either two or four hours a week during a school year by eleventh or twelfth grade tutors (19% Puerto Rican and 18% Negro). On testing, it was found that experimental pupils who had received four hours of tutoring per week made statistically significant gains in reading age as compared with control pupils This, however, was not the case with experimental pupils who received only two hours per week. The tutors themselves showed considerable gains in reading compared with a control group. Sex-ethnic matching of pupils with their tutors tended to bring about reading gains for Negro pupils, although this trend did not hold for Puerto Rican pupils.

Despite the academic gains for both pupils and tutors, no differences were found after the tutoring services in attitudes toward school and school-related activities, educational aspirations, or social values, for either pupils or tutors, and the degree of pupil reading improvement was not related to the pupil's measured attitudes toward his tutor.

In the "Peace Corps" project in a Harlem elementary school (Fox, 1967) students in two "slow" second-grade classes were assigned two high

achievement fifth grade students in the same school as "buddies." It was felt that the second graders, with their need to identify with a successful model fulfilled, would show an increase in motivation, achievement, personal and social adjustment, and positive school behavior and related activities. The second graders showed a more significant improvement in reading achievement and school attendance than a control group but data relevant to social and personal adjustment did not consistently indicate that the second graders were developing positively. Teacher ratings were negative, especially in the areas of peer group and classroom participation. Possibly the tutorial relationship inhibited the young children's ability to participate in peer-group situations in their own classrooms.

Despite the absence of measured positive affective changes in students in these programs, one must consider that the experimentals did in fact imitate the academic achievements of their peer models by themselves making reading gains, and one should not discount the use of successful peers as a potent device for raising achievement levels, especially in tutoring programs. It would seem, however, that the interaction between a child and an older peer model in the real world environment of a compensatory education program is affected by many other factors that are not completely understood or controllable at the present time. As has been suggested in an earlier discussion of the Homework Helper Program, many of the impressionistic responses of the high school tutors were never analyzed, much to our loss in understanding the complex interactions of peer tutors and their students.

Of all the interventions in the educational lives of disadvantaged youth, placement in a desegregated school or class has had the greatest impact on their personalities. A review of the school desegregation research shows that black students in segregated schools have higher aspirations and hold themselves in greater esteem than black students in desegregated schools (Black, 1960; Meketon, 1966; and others). However, as Katz has noted (see above), these aspirations may be unrealistic and defensive. Armor in a special study conducted as part of the U.S. Commission on Civil Rights study of Racial Isolation in the Public Schools (1967) has shown that lower-class boys of high ability aspired higher in desegregated than in segregated schools, suggesting the feelings of greater opportunity in desegregated schools. McPartland and York as part of the same study found that both black achievement and attitudes in desegregated schools are related to the degree of interracial tension within the school.

McPartland (1968) in his study of black secondary school students in Baltimore has also shown that the academic, affective, and social development is differentially affected by desegregation at the classroom level and at the school level. He found that while desegregation

generally has a positive effect on black students, those who remained in segregated classes within desegregated schools because of special program arrangements and tracking received no benefit from desegregation and may have felt doubly stigmatized. McPartland also found that although the aspirations of black students in desegregated classes suffered from the competition with the better-achieving white students, they felt a greater sense of opportunity available to them, indicating that the stigma of inferiority and defeatism had been somewhat alleviated. These desegregated students, for example, followed up their college aspirations with concrete actions to investigate particular colleges.

In a study conducted by Tuckman (1970) in two junior high schools and one high school in New Jersey, an experimental group of black students were reassigned to higher ability groups than those assigned to them by the school system, in comparison with comparable students who were not reassigned. After one academic semester it was found that (1) a significant number of students displaced into a higher ability group performed better on standardized tests than students not upwardly displaced, and (2) 54 percent of students displaced into a higher ability group were subsequently recommended for these higher groups in comparison with one percent of the controls. Upward displacement appeared, however, to have no effect on satisfaction, attendance, or grades, probably because the displaced students were competing with a group which was performing better than the group they left. However, although there were no immediately apparent positive social or personal changes, it is likely that students' self-expectations improved enough so that they will behave better in the future.

In Project ABC (Wessman, 1969) discussed in subsection 2, pre- and post-program psychological inventory scores showed many marked and statistically significant changes for the ABC boys that were not found for the controls in the direction of greater tension and anxiety, yet paradoxically more self-assurance and independence. It is difficult not to feel that the boys manifested some of the tension and heightened self-awareness that is typical of a previously socially marginal individual now finding himself more upwardly mobile.

Project ABC and other desegregation programs clearly result in a threat to the stability and integrity of the desegregated students' self concept. This is perhaps one explanation for the increasing ethnic and cultural awareness and separatist feelings of many minority youth which historically seems to have been a product of disappointments about school integration. It was found, for example, that the ABC boys became less well-socialized, controlled, and conforming as a result of the programs, and there seems to be a point in most of these programs at which any positive attitudes of the students--and their parents--about school desegregation becomes far less hopeful and much more skeptical. One does not know, however, whether

this is a function of fears of failure, inappropriate instructional strategies, the ambivalent or even negative attitudes of school personnel and fellow-students, the racial conflict in the school, community, or the society at large which have accompanied school desegregation, or, as in the case of the McPartland study of Baltimore, classroom segregation within a desegregated school.

If school desegregation has tended to depress the self concept and aspirations of disadvantaged or minority group youth and cause anxieties and tension, ethnically oriented materials and curriculum seem to have had the opposite effect. Research indicates that Black Studies courses, at all grade levels, increase the racial pride and self concept of black students. How these positive feelings will improve academic achievement has not yet been studied, although judging from the experiences of other minorities, group identity is a concomitant of academic and social achievement. The question remains, however, whether even this stronger group identity will be sufficient to bring about the affective changes which result in greater motivation to achieve if classrooms and schools do not provide a supportive environment and greater opportunities for learning. If these supportive environments were a reality, whether in the form of teacher behaviors or appropriate materials or instructional practices, some of the adverse personality changes that minority youth seem to undergo in desegregated schools would be minimized and there would be less chance that the disadvantaged or minority student would feel alienated from the academic goals of the school. He would be more likely to want to achieve and thus more likely to achieve, and as he does better academically he will have a stronger sense of internal control, which, as the Coleman Report points out, is a crucial variable in achievement.

4. Involving Parents and the Community in the Learning Process

"Parent participation" has become an aspect of compensatory education programs to which it is laudatory to give at least lip service. Any number of program proposals make passing reference to the "parental involvement" segment of the project. However, few programs actually solicit meaningful parent involvement, and even fewer have produced evaluation materials related to such involvement.

Fortunately, we are not totally dependent on program materials for documentation on the value of parental involvement. Schiff analyzed the effects of contacts between parents and school personnel on student achievement. In addition to experimental (parent participation) group gains on a reading test, better school attendance and study habits Brookover (1965) et. al. compared the development of three low-achieving junior high school groups; at the end of a year neither the group receiving counseling nor the group with regular contacts with interest specialists showed greater achievement. The third group, whose parents had become more intimately involved in the school and in their children's development, showed heightened self-concept and made significant academic progress.

Rankin (1967) found substantial differences between the attitudes and behavior of mothers of high-achiever and low-achiever inner-city elementary school children. Among these differences were the ability of mothers of high-achievers to discuss school matters and to initiate conferences. Jablonsky (1968) from her personal observations of various compensatory programs, noted the importance of a parental feeling of communication with the school, stating that "schools which have open doors to parents and community members have greater success in educating children...the children seem to be direct beneficiaries of the change in perception on the part of their parents."

With such evidence available, one might ask why so few compensatory education projects have included a component which significantly involves parents in the educational process. The tentative reasons one could give for this omission include focus on the administrative difficulties of actualizing such components. It is not usual to maintain contacts with parents, to have teachers visit homes and to have parents as constant visitors in the classroom, to encourage and sometimes act on parental suggestions, and to stress parent and community participation in decision-making in schools with compensatory education funds. Nevertheless, the administrative difficulties involved are not overwhelming. Rather, it is frequently the administrators' and the teachers' fears of such involvement that serve as a brake on the realization of such components. Any number of case histories are available documenting the administrative and political peregrinations which occur as a result of such fears, particularly where decentralization or community control has become a pivotal issue. The educational establishment usually succeeds in diluting such efforts to the point where potential effectiveness is nil.

There are some projects which have succeeded in gaining and maintaining active parent and/or community involvement. As only tentative evaluation results are available to date on any such projects, they will be cited here as models illustrating the variety of ways in which parents can take a role in compensatory education programs.

The majority of programs seriously attempting to involve parents in the education of their children are preschool programs. Project Knowhow (Dunham, 1968), discussed here, is representative of such programs. As discussed in the section in this chapter on preschool programs, the four components of the project are: (1) a preschool training program, emphasizing verbal and environmental stimulation; (2) an assisting mothers program designed to assist the mothers in improving their competency in the roles of homemaker, mother, and wife; (3) a fathers program providing crisis counseling, occupational training and placement, and education; and (4) health education and care. The evaluation to date indicates that mothers showed changes in food preparation behaviors and over half of the fathers enrolled in occupational or general education programs.

The University of Florida has developed a model, the Florida Parent Education Model (Florida University, 1970) which is being actualized in four different locations. This model includes using Follow Through mothers as parent educators by having them serve as aides in the classroom and as community liaison. In the classroom the mothers work with small groups and with individual children on reading or other skills and also collect observation data on individuals, groups, and the class as a whole. This data collection is done systematically, based on a method learned together by teacher and teacher aide, and covers the cognitive and affective realms. As a community liaison, the aides work with teachers in arranging and conducting small group sessions and parent education meetings. They also make periodic home visits and attempt to instruct parents in tasks complementary to those they utilize in the classroom. The projects utilizing this model have not been operating long enough to conduct an evaluation as to whether or not they have improved student intellectual and affective development by changing the school and school-community relationships.

Three neighboring community associations in San Francisco - Ocean View, Merced Heights and Ingleside (San Francisco Unified School District, 1970) - initiated an Education Committee and secured funds to work in seven elementary schools on a project emphasizing reading and community involvement. The community involvement aspect focused on providing an atmosphere of neighborliness in which to seek solutions to social and educational problems and to provide the community with concerned and supportive adults. To this end block action clubs were initiated with meetings of these clubs held to discover community concerns, assess needs and, hopefully, reach a common understanding of the schools' role vis a vis the community. Evening sessions were

held to help parents discover and utilize ways of working at home to build reading and language skills. In addition to working with PTA's and Parents Clubs, the four block organizers sought out non-joiners and tried to include their ideas and needs in the community input. The two half-time community representatives visited homes, arranged small conferences between school and community people, and made curricula recommendations.

The three goals of the Navajo Rough Rock Community School (Erickson and Schwartz, 1969) are stated: (1) that pupils demonstrate a higher level of social psychological functioning; (2) that the community should be stronger, more cohesive, more aggressive, more independent and (3) that pupils should be capable cognitively and affectively of succeeding in both the Navajo and Anglo worlds. The second goal was to be achieved through "involving the community extensively in the decision-making and program-executing aspects of the school by developing a locally-elected school board and other decision-making mechanisms; encouraging the creation and growth of local political structures; lending status and recognition to community leaders; improving health services and recreational opportunities,...extending employment and vocational development opportunities to people who would otherwise lack them..." The anthropologically-oriented descriptive evaluation of this project is a thoughtful, comprehensive document which does not seek to provide answers where there are none. Thus, it illustrates that some of these goals have been met, that the school has become a more vital part of the community, but that traditional administrative areas have not been infringed on by the elected school board.

The Rough Rock school board's failure to assume administrative control of the school illustrates how deep-seated among socially disadvantaged groups is the lack of a sense of control over their own children's education. "Community control" of education has become a political issue in many urban areas when in actuality, these urban communities are asking only for the ability to control their schools as suburbanites control theirs. In order for schools to be effective, change may be needed not only in the classroom but in the relationship between the school and the community, with community integrity maintained. None of the above-mentioned programs attempts to initiate genuine community control in education, though several do make sincere efforts to increase the importance given to community inputs.

Springfield Avenue Community School (American Institute for Research, 1970) (pre-school through 4) in Newark, New Jersey, represents one of the few documented efforts at genuine community control. The Parents' Action Council, made up of all the parents, is the school's guiding committee. A teacher regarded as unsuitable by parents is asked to leave. Parents and community people are employed not only as aides but as social workers, photographers, etc. The community

workshops, held to teach parents to become politically effective in educational matters, were quite successful in enabling parents to gain and maintain control of the school. Results on nationally standardized achievement tests indicate that most students are achieving at least at national norms. This school is, then, involving parents and the community through parent education, through parent and community involvement in the school, through parent involvement in support of learning, and through actual participation in decision-making. In order to gain widespread community support of a school or an educational program, this last method of involvement is essential.

5. Changing Staff Behavior Through Training

In a study for ETS, Henry Dyer (1966) correlated various school and student variables with the results of academic achievement tests administered to over 600,000 students by the Coleman study. He concluded that the school characteristics which tend to correlate with differential levels of academic performance are often those most difficult to change. Near the top of his list are such staff attributes as teacher's verbal facility, the quality of the teachers' training, teacher willingness to teach children from the slums, and attitudes toward social integration. While there is general agreement that the attitudes of teachers reflected in their pedagogical methods are crucial in improving the education of disadvantaged children, the fact that this is thought to be an area in which it is difficult to effect change has resulted in a relatively limited number of programs. The NDEA summer institutes make up the majority of programs of this type; the evaluation techniques utilized in analyzing these institutes are representative of those utilized in programs of this sort and of their limitations.

But the limitations of the reported evaluations are simply a reflection of the problems involved in organizing and carrying through a program which emphasizes changing staff behavior. Few programs which attempt to alter staff behavior speak to the needs delineated in the research on teacher attitudes and beliefs; for example, little importance seems to be given to the problems presented by teachers with authoritarian and concrete belief systems as discussed by Conners and Waller (See subsection 2 of this section for fuller discussion) in their study of Head Start teachers. Nearly all staff-training programs purport to be primarily interested in improving teaching methods through the provision of increased information and through observation and analysis techniques. However, as increased recognition is being given to the necessity of changing the psychosocial behavior of teachers who work with educationally disadvantaged children, structured attempts to work with this behavior are included in such programs. It is rare to find a teacher-training program or a summer institute for such teachers which does not provide time for some type

of informal interactions designed to initiate self-evaluation and rethinking of one's role as a teacher of disadvantaged children.

Organizationally the efforts made in this area are of three types: summer institutes, in-service training and pre-service training. Although the latter is theoretically an "initiating" rather than a "changing" of staff behavior inasmuch as the participants have not yet taught, it is in this area that some of the most hopeful developments are occuring. There are few reports available on in-service teacher-training programs constructed specifically to deal with the problems of working with the disadvantaged. Title I programs do sometimes include an in-service teacher-training component, but it is usually a minor focus of the project and is rarely evaluated apart from the total program. Only 7.5% of the school districts reporting in the OE Elementary School survey spent more than 4% of their Title I allocation for in-service teacher training.

One exemplary summer program was a joint effort undertaken by the Harvard University Center for Research and Development on Educational Differences, Action for Boston Community Development and the Boston School System (Klopf and Bauman, 1966). The program included a six-week enrichment program for 300 children, aged 7 to 12 and a seven-week clinical training program for 97 experienced teachers, principals and guidance counselors. The participants were divided into three teams of which 1/3 were planning, 1/3 were teaching and 1/3 were observing with a week of the cycle devoted to each phase, two cycles being completed during the institute. Each phase allowed the participants to assess a different aspect of the teaching process; the principals and guidance counselors were an essential part of the team, though given special roles.

These cycles were one part of a tripartite design, the two other parts being focused on a laboratory in which curriculum was to be related directly to childrens' needs and life situations and on a program of social studies that stressed the discovery method. No definitive evaluations are available on this project; however it is somewhat unique in this area in that much time and effort went into actually applying a theory of behavior change to a given summer institute and in linking a university to a public school system.

A less-structured, non-directive approach was used in a summer institute at Goucher College in Baltimore, Maryland (Klopf and Bauman, 1966). 30 high school teachers of English and Social Studies from eight inner-city schools and 22 high school students, selected as being disadvantaged "underachievers" were involved. The three daily classes in the 6-week institute were: (1) a 1½ hour round-table discussion based on a combination of T-group methods and the concepts of Carl Rogers. For this session, all groups of 12, including teachers, students and institute staff, met together.

(2) An English class which devoted ½ time to observing the student English class, in which the students were reading, writing, and discussing poetry and ½ time to its own discussion of the same books and poems and to writing.
(3) Sociology and role-playing techniques. The goals of the course were to give insights into personal experiences in relation to the inner-city environment and to demonstrate how role-playing methods can be used in teaching social sciences.

The institute staff included a psychiatric social worker whose major role was interviewing and counseling participants. Although the questionnaire evaluation indicated that the entire experience did furnish the participants with a strengthening of self-concept, development of sensitivity and an important sense of rapport within small groups, limitations were also noted. These included the need for a longer institute, the inclusion of students with disciplinary problems and the inclusion of school administrators.

A summer 6-week NDEA institute held in Washington (Klopf and Bauman, 1966) was a great deal more directive. It's 50 selected secondary school teachers were instructed by experienced master teachers, reading and speech experts, and local people working in the area, such as police and social workers. Reading and speech labs and supervised independent study supplemented the discussions on curriculum, materials, and methodology and human relations. The focus on the program was on the work with the 26 8th grade youths who went to workshops to provide a demonstration class and who were tutored individually for an hour each afternoon by two participants. In these workshops the participants developed a system whereby they demonstrated their educational approaches in front of the group and then used the demonstration as a discussion vehicle for bringing out methodological insights. In written evaluations the participants reported that working with one child for an extended time helped them form insights into the backgrounds and behaviors of these children.

In this effort to summarize the various types of summer institutes that have been conducted, the last to be outlined is one in Riverside, California (Klopf and Bauman, 1966) which was predicated on the hypothesis that the nonprofessional can play an important role in elementary and parochial education. This experimental program grouped into teams a high school student, a high school dropout, a college student, and a mother. These teams worked each morning with a classroom teacher, observing, participating in planning and teaching. A variety of activities filled the afternoons including team meetings, evaluations and weekly contacts by the nonprofessionals with the children's teachers. This 6-week phase was preceded by 12 weeks of part-time preparation by staff members which included extensive observation of children in the target area.

The results of the evaluation in which the children were given pre- and post-tests evidenced that "learning was taking place;" though it would appear that gearing the program to specific learning disabilities might have facilitated more significant improvements. Results of the evaluation indicated that defining the role of the teaching assistant was a major problem area. This has been a problem elsewhere in the utilization of teacher aides. Experimental programs such as this serve a valuable purpose in highlighting this issue; future such programs should include experimenting with the application of definitions of this role.

Only two in-service programs will be discussed here, since little specific information of either a descriptive or an evaluative nature is available on such programs. Heraldsburg Union and High School Districts in Sonoma County, California (Stone, 1969) combined an in-service workshop and practicum program with a 6-week summer project. Two nights each week during the spring semester classes in English and American Literature were held at a demonstration school for approximately 65 Mexican-American parents while their children attended classes to learn English and participate in other activities such as drama, music, art, science, history, and field trips. The 22 teachers and the 11 Mexican High School student teacher aide participants served in rotation as instructors of these demonstration classes. Two-hour lecture-discussion sessions were held weekly in which the milieu of the disadvantaged student, the development of curricula and the use of teacher aides, counselors, and specialists were some of the topics discussed. Other special activities such as observing demonstration special classes and visiting other schools were included in this in-service program. The summer workshop included a demonstration school. An interesting aspect of this project is the use of the teacher-participants as local experts in conducting more modest staff projects on a local basis in subsequent years.

At the Tidewater Park Elementary School in Norfolk, Virginia (Stevens, 1967) very favorable results were achieved on nationally standardized achievement tests with children who had earlier tested as "poor risks" or "low normal" in readiness when entering school. The principal of the school used a three-pronged approach to effectuate such changes, one of them being the development of a personal, understanding relationship between pupils and teachers. As a beginning step teachers visited children's homes frequently and planned units that would fit into the children's life situations. Later on, weekly in-service sessions were introduced at which teacher approaches, attitudes and methods are analyzed and discussed. Obviously, a program of this type can be effective only with an active, committed principal who has some say in the selection and retention of her staff.

As mentioned previously, programs in the area of teacher training show some of the greatest promise, in large part, because of the

extended duration and the mandatory nature of such programs. Most institutions which train teachers now have some courses which purport to deal specifically with problems of teaching the disadvantaged and some have entire programs. Rarely have such courses and/or programs been subject to any kind of systematic evaluation and detailed description are not available in any circulated reports. As with the two other types of programs the available information's value lies primarily in its provision of models with some indication of the results attained when such models were actualized.

The federally funded Teacher Corps is one such pre-service training project. The funding and political problems encountered by the project indicate the dangers inherent in national programs of this sort. However, certain ideas built into the local Teacher Corps did prove viable and useful in instilling trainees with teaching styles and attitudes relevant to a compensatory education situation. These ideas include grouping the trainees into teams of five or six with an experienced teacher as leader; such team works with this leader in the school, in community service work and in course work. The community-service work was required in most Teacher Corps programs and did enable the trainees to deepen their understanding of the unique nature of a given social and cultural community. Another useful basis for organizing programs which was an integral part of the Teacher Corps the coordination of efforts from the university or college, from the public schools and from the community itself.

Operation Fair Chance (California State College, Hayward; Fresno State College, 1969) was the name given to a teacher training project conceived at California State Colleges and actualized in several different school districts. A stipend was provided for participants selected for this nine month program at the completion of which standard state teaching credentials were received. Theoretically the program was established to provide a sequential learning-through-examining experience development through large blocks of work in orientation (8 days), community study (2 weeks) job corps participation (6 weeks), school and community involvement (4 weeks) supervised student teaching (18 weeks) and summary sharing (1 week). Methods included lectures, encounter groups and skill development workshops. Although conceptually this program was overflowing with good ideas, its instructional and noncoordinated nature, its diverse goals which were never operationalized and its lack of systematic preparation prior to community work stood out in the evaluation. Programs which attempt to involve educational personnel in the community should spell out their goals and the steps to achieve such goals specifically. (Teachers, Inc., Currier, 1969), now operating in schools in Washington and New York, appears to be experiencing initial success in its efforts to do just that.)

A teacher-training project which contained a carefully formulated research design was instituted at Syracuse University (Clayton, 1969) in a 5-year urban teacher-training program wherein the 5th year was

an internship in the classroom. The hypothesis posed, that "there is a measurable difference in the behavior of student teachers working with cooperating teachers having certain kinds of training" (feedback practices such as Flanders' interaction analysis, video tape techniques and other conceptual surpervisory tools), provides useful insight into the kinds of issues in this area that have to be examined. During the two years of the project, which included work for some interns with teachers receiving the special training and work for others with a control group receiving no such training, a wide variety of tests was administered and extensive analysis was done on the data. Although this analysis did not support the general hypothesis tested, there was some evidence that for definable subgroups of student teachers, particular supervisory activities were related to positive changes. The research on this project does not provide us with definitive results, but it does employ hard data to demonstrate the no-relationship outcome and it does pose some important questions for further research in this area.

In general, then, programs in this area have provided some models which appear to be effective in certain locations, but with very few evaluations in which effectiveness is defined and/or described. A comprehensive evaluation of the participants in a number of California ESEA Title I and Title III and NDEA Title XI programs can be found in Teachers for the Disadvantaged by James L. Stone (1969). Since there is an increasing awareness that what is effective for one teacher may not work for another, programs designed to alter staff behaviors become more difficult to design in a manner that will stimulate desired changes in all participants. Evaluations done with such programs have, for the most part, been teacher attitude measures, often accompanied by classroom observations. Setting aside the issue of whether or not attitude tests really measure anything, the reporting of these evaluations is done statistically, leaving the reader with no concept of what is actually happening in this teacher's classroom. Furthermore, evaluations conducted in the term immediately following a training program are subject to question since, as Haubrich (1968) points out, many teachers' summer plans are forgotten and few changes are effected. This failure to succeed in having teacher's internalize changed behaviors is, in many cases, partly the result of a program's failure to define goals for the teachers.

Pre-service training programs show the most promise for the reasons listed above-duration and required nature of the program--and due to a greater feeling of freedom to experiment. Comprehensive student-teaching-and intern programs which include community work placement in a school with a sensitive supervision of teacher, a "reality orientation" to the problems of the educationally disadvantaged child and some provision for self-exploration and evaluation are developing in some areas, usually through the cooperation of a T-training institute and a local school system. Such programs can prove to be a major step in providing classrooms with the kinds of flexible and sensitive teaching

so lacking in the area of compensatory education. Although it is impossible to attribute the lack of success encountered by the majority of compensatory education programs to any one factor, the area of teacher attitudes and teaching styles is crucial and substantive programs directed to this issue are few. Postman and Weingarther (1969) wrote that "there can be no significant innovation in education that does not have at its center the attitudes of teachers, and it is an illusion to think otherwise." Too many compensatory education programs appear to be operating under this illusion.

6. Changing Schools and School Systems

In an apocalyptic style which characterizes the writing of what Fromm would call a humanistic radical, Ivan Illich's projection for the future of schools may demoralize the positivistic social engineers who have implicitly operated on the assumption that schools spell success for their inhabitants:

> I expect that by the end of this century, what we now call school will be a historical relic, developed in the time of the railroad and the private automobile and discarded only with them. I feel sure that it will soon be evident that the school is as marginal to education as the witch doctor is to public health.

This statement serves as the context for the very topic of this section as well as the motivating questions which guide our search of the literature discussed herein. While a generally sociological and political perspective is taken in formulating these questions, there will inevitably be philosophical, moral and psychological overtones.

In their anthropological study of an urban classroom, Smith and Geoffrey (1968) corroborated what many critics and even practitioners had long sensed: the relative ineffectiveness of the school to influence the lives of disadvantaged youth (It is well to note that the urban classroom of some 35 elementary school sixth and seventh graders studied for one semester in this study consisted of only two black children; most of the other children were predominantly white lower class children, although the authors fail to give much further background information on the socioeconomic and ethnic background of the children). They confirm the already researched proposition that peer group norms and the presence of cliques may have more to do with the behavioral patterns of the children than anything the teacher might do. A less commonly accepted proposition is the relative influence of peer group pressures on the behavior of teachers in their attitudes toward and relationships with children, whether they be aggressive or not, in controlling or

directing their own lives. All this discussion is by way of introducing the pivotal questions dealing with efforts at "radical school reform," the conception of which may be paradoxical, if not naive.

1. Can schools make significant changes in their structure without concurrent changes in our society?

2. Does community involvement or control result in curriculum changes or improvement of compensatory education programs?

3. What effect do the efforts of desegregation or integration have on the quality of instruction and learning for disadvantaged children in compensatory education programs?

4. What relationship is there between greater student participation in educational decision-making and student learning--progress in compensatory education programs?

5. What configurations of professionals, para-professionals, students, parents and lay persons can have a positive influence on the condition of learning, especially for the disadvantaged youth?

6. What moral and ethical considerations underlie the sociological assumptions being tacitly or explicitly professed or challenged by those concerned with the improvement of compensatory education programs?

7. How do compulsory education or alternatives to traditional schooling relate to various aspects of child development and socialization in compensatory programs?

It is probably unwise to pose these rather general questions of studies which may themselves have focused on other problems or have formulated their questions in an entirely different context. Nevertheless, in order to get some sense of the general status and trends of the literature of compensatory education as it deals with systemic changes and with the relative use of power and influence by social actors in school systems, some viable research-oriented framework is necessary if the section is not to become an anemic litany of reviews. In this sense, Illich's radicalized projection has not escaped the attention of several writers and research teams, who have been concerned not only with the sociological aspects of these questions, but with the deeper and underlying philosophical and ethical bases for dealing with the school as a social system.

Indeed, the spate of works dealing with "crises in the schools" attests to the growing moral awareness both of scholars and the public. At the center of this awareness of the "new crisis" in education, as Janowitz (1969) calls it in contrast to the "old crisis" of immigrants and depression days, is the brutal fact of racial prejudice. This crisis is compounded by the transformation and organization of the

labor market under advanced industrialization (Ibid.). In an apparent, perhaps tentative, answer to our seventh question, Janowitz says that the "new crisis" in education is that

> schools must now accept responsibility for all youngsters who are not college bound until they develop levels of personal maturity sufficient for them to enter the labor market. The present resources and practices of the inner city school system are inadequate for this expanded task.

A "rare effort at comprehensive reformation of inner city education," according to Janowitz, is Havighurst's The Public Schools of Chicago: A Survey (1964). While the recommendations were rejected by both the Superintendent and the Board of Education in Chicago, other such attempts have been scarce until the civil rights movement and the rise in militancy among minorities began to exert influence on political and social structures to change or face mutilation, if not destruction. Ample testimony, however, as to the unwillingness of entrenched professional bureaucrats in what Janowitz calls an overcentralized organization can be found in David Rogers' (1968) study of the desegregation efforts in the New York City Public Schools. Far from attempting a comprehensive reorganization for change as advocated by Havighurst, the New York City Schools, according to Rogers, have been "flooded with demonstration projects and piecemeal innovations" which were "in part a technique to absorb protest, whether consciously planned that way or not, and they help to maintain the bureaucratic structure by isolating innovations and not letting them affect the broader system."

Decentralization, as recommended by the Bundy (1968) report, educational parks, "magnet schools," the Community School at Rough Rock, street academies, the Pennsylvania Advancement School, the Hartford Project Concern represent a wide range of approaches to the problem of changing the configurations of professionals, paraprofessionals, students, parents, and even lay persons as a way of improving the conditions for learning.

Radical reform will be discussed under the major headings as developed by Janowitz (1969). But first, it might be useful to mention the four theoretical models he offers and see how these might be operationalized. The first model adopted from mental health proponents, is most closely associated with Bruno Bettelheim's Orthogenic School and the notion of a teacher-counselor relating to ten to fifteen children. Then there is the early education or head start model, though this is limited to prekindergarten children. Thirdly, there is the specialization model where teachers are highly differentiated in their roles, based on their skills in a specific discipline. The aggregation model sees the teacher more as an administrator of a learning environment as well as a teacher-counselor.

a. Decentralization and community control

The Lupachukai Boarding School administered by the Bureau of Indian Affairs was the locale in which a new idea in Indian education developed. Several factors combined to transform the idea that Navajo education be more responsive to the needs and wishes of the Navajo community. To graft this new idea onto the existing pattern of schools administered by the Bureau of Indian Affairs at Lukachukai, however, did not seem to work out satisfactorily in the first year of implementation, 1965-6. With support from various sources, including the Navajo education committee, professional educators from Arizona State University, and Federal funds, the idea was transplanted to a more ideal setting at Rough Rock with a newer plant and a community more disposed to allow the experiment to flourish. The local populace elected its own school board-something new not only on Indian reservations, but in many large cities as well. In its second year of operation at Rough Rock, 1967-68, Robert A. Roessel Jr., the Chief Executive Officer of the Rough Rock Community School, a private, non-profit organization, decided to step down to allow Dillon Platero, himself of Navajo descent, to gradually take over the direction of the community school. The organization of the Rough Rock Community School called for five different assistant directors, whose tasks can indicate the breadth of involvement the school has in the life not only of its students and staff, but also of the community at large. These tasks were: Educational Services, Administrative Services, Dormitory Services, Navajo Curriculum Center, and Community Services. While the Navajo Curriculum Center helped produce six texts on Navajo culture, a more unique characteristic of the school might be found in the activities engaged in by the Community Services Division, which was reorganized in January of 1969 to "lessen its ties with the school" and be more responsive to the community. It took on the new name of "the Rough Rock Development Project," which helped to build the industrial arts building the previous summer, offered arts and crafts for older people as well as the students, provided adult education for dorm parents and adults interested in getting high school diplomas, reorganized the local Community Action Committee, helped solve the problem of overflowing sewage lagoons, helped develop a proposal to construct a community building with funding from the Department of Housing and Urban Development, and purchased a road grader to be used to make roads more passable for bus transportation of children to and from school. The report of these activities and the decision made by the school board indicate the extent to which the school and the community work closely together to solve problems which seemed no longer to be the exclusive domain of any one sub-group-but a matter of overall community concern. Their motto, "The child belongs to the parents and not to the school," has developed into no empty proposal but into an active courtship of the ideal with the real.

While the experience at Rough Rock seems unique not only for Navajo education but for American education as a whole, its achievements may be related in part to the relatively small size of the community (about 1,000 people with 250 school students). Other factors, such as Federal funds, university support, and indigenous interest and leadership contributed no small part to the progress of this demonstration community school.

By sharp contrast, it seems, community schools in large urban centers have had a far from smooth road to travel. Indeed, the experience at Rough Rock may look like an idyllic description out of an early nineteenth century rural America, ethnic differences notwithstanding. It may demonstrate cooly, simply, and yet dramatically the potential for the concept of community control. Without doubt, it would be folly to foist its rural shape onto non-rural superstructures. Nevertheless, the parallels between the two are not accidental and should not be ignored. To be considered are the three demonstration school projects in New York City.

When the Board of Education of New York City first proposed the site of Intermediate School 201 in Harlem in 1958, parents and community leaders objected on the grounds that it would not permit integration. In spite of several postponements and discussions, the school was built where it was originally proposed with the promise that it would be integrated. When this compromise gathered itself into the community collection of broken promises, "the parents asked for local control of the school, including a voice in the selection of teachers and supervisors, a role in evaluating and recommending educational programs and standards, a curriculum designed to raise student achievement, an integrated experienced staff, and, initially, a Negro or Puerto Rican principal and at least two Negro or Puerto Rican assistant principals."

After considerable confusion during the school's opening year, 1966-67, the Ford Foundation supported a plan for a decentralized operation with I.S. 201 as the center of a complex including its four feeder elementary schools. Few teachers were on the Planning Board which met during the summer of 1967. When the school opened in September, 1967 in the midst of a city-wide teachers' strike, racial feelings became more intense among community members who felt that the strike action by a white-controlled union "demonstrated lack of concern for the children." Elections of the Governing Board were held in December, 1967. Early in 1968, the Governing Board selected a unit administrator for the project and a principal for I.S. 201 whose appointments were not recognized by the Board of Education because it "found that both (persons selected) lacked the required education credits to qualify for the posts." After several weeks these appointments were upheld on the condition that the candidates be named as acting administrator and principal.

Less controversy surrounded the initial planning and operation of the Ocean Hill-Brownsville District. Community members who were involved in the early stages of the development of Intermediate School 55 helped to plan for the demonstration project during the spring of 1967. Teachers seemed to be more involved in the planning of this project although supervisors seemed not to have been involved in "meaningful participation." Elections for the Governing Board were held in August with an unexpectedly large turn-out of voters. While the Governing Board seemed to be well organized early in the fall, they had difficulty gaining full recognition by the central board. This hampered the flow of much needed supplies and supporting services. In these two demonstration projects, as well as the Two Bridges Project, major impetus seemed to be from community groups who later found support in the Ford Foundation which took an active interest in improvement of education, especially by decentralization.

The matter of who represents the community seemed to be a phenomenon which was difficult to cope with, especially in the initial stages of the demonstration projects. It was reported for example, that different representatives who met for one meeting were later "knowingly" excluded from a follow-up meeting involving I.S. 201. While racist charges and counter charges were made in the formative stages of these projects, the New York City Commission on Human Rights (1968) asserted that "the center of this movement is education, not race," after hearing various opinions from parties involved in the controversy. Their concluding opinion is worth repeating:

> When ghetto communities ask for control over the schools, their demand is an expression of dissatisfaction with existing institutions and a recognition that ghetto schools require special attention which they have not obtained and perhaps cannot obtain from a central system whose basic promise is rigid uniformity. Community control to ghetto residents is a means to insure that their children obtain education especially relevant to themselves and to their community, and are taught by teachers who understand these special needs and who identify with them. . . Similarly, when a ghetto community calls for appointment of a Negro principal in a school it is because they feel that in a ghetto school a Negro supervisor is more suitable because he can bring what the schools now lack: a link with the community institution and a figure of authority that helps bolster the self-image of the children in school.

Because of the great opposition of the central bureaucracy and the need for concentrating efforts on other priorities (including bare survival of the innovative nature of the projects), integration seemed to be a distant, but not forgotten, objective, except in the Two Bridges Project, where 40% Puerto Ricans, 35% Chinese, 12% black,

and 12% white, provide a notable setting for such integration efforts. Finally, possible abuses of these demonstration projects was duly taken note of by the same commission without disclaiming its overall support of the innovative approach. Thus it recommended that the central board review claims by interested parties who may feel their legitimate interests have been ignored by the local board.

According to Gittell and Hollander (1968), with reform movement spearheaded by Richardson Dilworth who became chairman of a newly constituted central Board of Education in Philadelphia, a system-wide approach to community participation was initiated in that city. The Philadelphia Commission on Decentralization and Community Participation (1970) has developed a plan for the promotion of greater community involvement both at the local school level and at the district level. In the local school, several options are suggested: (1) informal community participation in decision-making, (2) participation by an elected or appointed advisory committee from the community, and (3) shared responsibility with the local school board. A similar plan has been inaugurated in New York City with its consultative councils where representatives of parents, community organization, students, teachers, and administrators meet monthly with the school's principal and act in an advisory capacity (see New York City Office of Education Affairs, 1970).

All of these have in common the effort to forge a link between the school and the community in order to raise the quality of education of children. While differences in setting and style are significant, this trend seems to be gathering momentum as the many compensatory education programs design their plans to include a larger role for community members, not only as enlisted volunteers in the traditional PTA activities, but also as paid aides, as members of decision-making bodies, as members of newly constituted local boards of education, etc. Hawkridge (1968), for example, relates how the pre-school program in Fresno, California was able to achieve a 5:1 ratio of children to adults by means of teacher aides, especially parents with facility in Spanish, in addition to the teachers and resource teachers. Moreover, parents of children in the pre-school program were expected to participate at least one day a week, if possible, in the actual on-going program, attend parent meetings twice per month, and join classes for study trips.

The problems encountered in this trend are far from solved. While parents, in Fresno (Hawkridge, 1968) might have been willing to participate, babysitting had to be arranged to free the parent to participate in planning sessions with teachers. A more insidious problem is the opposition of entrenched bureaucrats whose previously unquestioned authority appears to be threatened by the greater role played by parents and other community leaders. Berube and Gittell (1969) present the various points of view concerning the confrontations that occurred in the Ocean Hill-Brownsville Demonstration

Project (see especially "The Burden of the Blame: NYCLU Report on the Ocean Hill-Brownsville School Controversy"). Macdonald (1971) in his discussion of "the four faces of schooling," suggests that such a confrontation might arise because the school is "a place of work with its attention focused on status, role, and maintaining the system." Other problems also plague the comparatively less bureaucratically controlled rural regions, where apathy, geographical isolation, and other factors provide obstacles to change. Platero (1969), for example, reports on the very inaccessibility of roads as an obstacle to the mission of the Rough Rock community school. Yet it is difficult to deny the potential force for good that resides in the arousal of social awareness and its consequent--social action aimed at relieving social injustices through the improvement of the quality of education.

b. Alternatives to public schools

The development of non-profit corporations and other alternatives to public schools represents another significant trend in a rearrangement of institutions and persons concerned about improving educational opportunities for children from economically disadvantaged environments. One such non-profit corporation is the Pennsylvania Advancement School (1969), serving parochial and public school seventh and eighth grade children, 60% of them black, who have been identified by their parent schools as underachievers. The 1969 report describes its first two years of operation, in which it made definite efforts to emphasize the social and personal aspects of the children's development. Housed in an abandoned factory in Philadelphia, the school attempts to break away from the departmental structures of the traditional high school, which seems to militate against the personal and social growth, especially of the underachieving child. Primary concern is given instead to counseling activities, community affairs, and external and internal staff development. An administrative strategy for helping to build self-concept was the changing from a white-dominated director's cabinet to a "council" consisting of three blacks and two whites. As a self-declared model school, PAS attempted to create a ripple effect of its operations to five neighboring junior high schools by way of (1) setting up a mini-school composed of sixth graders from a nearby elementary school, (2) establishing a resident teacher fellowship program whereby one or two teachers from nearby cooperating schools could spend one full semester observing and assisting the PAS operation; (3) helping other schools write proposals for funding of similar innovative projects; (4) conducting summer workshops and school year institutes for guidance counselors and teachers who wanted to learn more about the innovative projects and the underlying philosophy of PAS; (5) working with undergraduates and teacher interns; and (6) establishing working relations with various universities and schools and other agencies.

The flurry of activities and the lack of constraint on creative energies commands attention to the "model" the school was attempting to develop. New configurations of teacher-teacher intern, teacher-teacher fellows (from other schools), teacher-guidance counselors, small group activities, mini-schools, outdoor camps, and other arrangements make the idea of partnership with other schools, universities, camps, and community organizations no longer a matter of "strange bedfellows."

Similar partnerships seem to be the bedrock on which street academies, store front schools, and community schools operate. O'Gorman (1970) reports how dope addicts became valuable as tutors when their talents in reading or telling stories were tapped. Tutors can be drawn from the community, especially among high school and college students. Petersen et al. (1965) describe the Associated Community Teams, Inc. which provided training for its staff of some 100 teachers, advisors, assistant teachers, and aides who in turn operated nine after-school centers for children and youth of Harlem. The project had as one of its major purposes the encouragement and development of indigenous leaders who could staff the after-school centers as a way of providing much needed compensatory education to the community at a time when the ESEA Title I was not yet enacted. Their experiences have since been absorbed into or followed by various other programs, some of which have since been funded under Title I.

c. Student protest

Yet another source for changing current power arrangements that could affect compensatory education programs is student unrest. Fish (1970) recalls his own experience as a principal of Montclair High School in New Jersey as well as three other case studies where unrest occurred. The upshot of these and many similar occurrences has been not only "greater say" for students, but in some cases more fundamental changes in the structure of decision-making in schools, the granting of greater autonomy for students through flexible schedules that permit students to enlist in--some might say be co-opted into--community projects. These projects might include the tutoring of elementary or junior high pupils, as in San Francisco (1970), taking part in environment activities, sponsoring public events to stimulate better human relations, especially where racial tensions have been exacerbated. (see Dodson, 1969).

d. Compensatory education and the common school

We might conclude this section by referring to many of the above studies as being on a continuum where, on the one hand, efforts may be focused on a single, partial solution to unequal educational opportunity as in the addition of new staff along with concomitant

resources (see, e.g., Fresno, 1965, which has identified various new job descriptions that are associated with its compensatory education program). Thus, the growth of teaching assistants and other paraprofessionals. On the other end of the spectrum is a total overhauling of a system or guilding of a new or different system. The Passow (1967) report of the Washington schools suggested such an approach which has yet to be implemented. Pittsburgh (see McCormick, 1969) and Philadelphia (see Fantini and Gittell, 1970) have outlined plans and are moving closer toward implementing what approaches a total design for system reform, especially as a means of upgrading the quality of education for inner-city children and youth. Somewhere in between are the model or demonstration schools or projects such as Ocean Hill-Brownsville, Rough Rock, the Pennsylvania Advancement School.

The question remains as to whether the common school, which received a heavy boost from compulsory education laws will muddle through, especially if these trends should become major movements. One view expressed by Haubrich (1971) is that the system of education in the United States has "an enormous capacity to absorb change while not changing at all."* Another view is that educational parks, magnet schools, metropolitan school boards as in the schools of Dade County, Florida or Nashville-Davidson County Schools in Tennessee (Bendiner, 1969), decentralized school boards as in Ocean Hill Brownsville, community schools like Rough Rock, store front schools, and home tutoring all represent a range of alternatives. Miel (1969) suggests a rationale for having this range of choices and yet maintaining a common school insofar as it preserves the basic spirit of bringing about some form of social cohesiveness which is valued by the society.

One final proposition can be stated simply: a federal system of schools from kindergarten through graduate school. This proposition has been seriously suggested by Billings (1971), a former director of the Upward Bound program in the Office of Economic Opportunity. Wayland (1964), examining the schools of the United States from the perspective of a sociologist, has suggested that there already is a de facto federal system. What Billings would like to see is the elimination of the many duplications and the greater streamlining of "the educational system" so that it can meet the educational needs of all its children, without sacrificing local autonomy, which he claims can be guaranteed by the kind of local governing board which was part and parcel of the various Upward Bound programs. A similar position was taken by Usdan et al. (1969) who discuss the conflicts that exist between various levels of education and governments associated with those levels. They conclude that:

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*Italics in original.

> the best prospect for turning the interlevel relationship away from conflict and toward cooperation, if that seems desirable, would seem to lie in the creation of new overall coordinating mechanisms. This course is neither easy nor fool-proof. It appears, however, that both the public and the private institutions of education are so rigidly separated by tradition that some "natural" accommodation is unlikely. It also seems unlikely that legislators and governors will be able to accomplish coordination without help from other agencies, unless the structures of state government are overhauled in dramatic and deep-reaching ways. They would need more time, more staff, more information, and more effective linkages among themselves to handle the broad problems of education in something better than the short-run incremental fashion in which they must now deal with most of the things they do. Perhaps in any case these steps toward revision of state structure and policy, particularly basic revenue policy, are requisite to an effective educational future.

Even though most of the compensatory education studies read in this section of the report do not confront the issues raised about the survival of the common school, policy-makers concerned with the effectiveness of compensatory education programs will need to address themselves to the organizational frameworks used to administer compensatory education programs. No organizational, sociological, or curriculum theory seems to offer any comprehensive guidance. Rather, as Schwab (1970) has urged, those who wish to assess changes must be open to a plurality of methods, not unlike the way the legal profession brings about changes in laws:

> The law has systematized the accumulation of direct experience of actual cases in its machinery for the recording of cases and opinions as precedents which continuously monitor, supplement, and modify the meaning and application of its formal knowledge, its statutes. It is this recourse to accumulated lore, to experience of actions and their consequences, to action and reaction at the level of the concrete case, which constitutes the heart of the practical. It is high time that curriculum do likewise.

Assessing the achievement of compensatory education programs, then, merely by reporting achievements based on standardized tests is, in Schwab's view, a waste of time. We might add that the sociological and political ramifications not only of the process of introducing compensatory education programs, but also of such programs as they effect the make-up of the institution conducting the program need to be given more attention in future reports of compensatory education programs, if a comprehensive assessment is to be achieved.

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Section III: IMPLICATIONS FOR EVALUATION RESEARCH

A. Exemplary Studies of Compensatory Education

In the initial stages of this study, the intent was to present high quality studies in which results were sufficiently definitive to form a firm basis for drawing conclusions concerning relationships between variables as well as for making policy decisions. The many and difficult problems in educational evaluation research and national surveys are discussed in Section I. Although some good studies exist, they are not present in great number nor can their findings be aggregated to delineate trends without great risks in the conclusions drawn as well as considerable violation to the purpose of the different types of data encountered. This dilemma led to the decision to present a group of good studies to illustrate some special issues in the field of compensatory education, which issues also have implications for the design of future evaluation research. An attempt was made to select studies of high quality. It should be noted, however, that the studies presented vary in the adequacy of their research design. Some studies are worthy of attention, even though some weakness in research design is present, when they raise critical issues in areas where there is a lack of information based on better research.

The study by White (1968) is concerned with the plasticity of early sensorimotor development and the findings support the importance of environmental influences, particularly in infancy. The objectives of this study were to: trace the development of the major sensorimotor abilities, identify environmental or experience conditions which seem relevant to these abilities, and determine whether early development is significantly dependent upon rearing conditions.

Intensive observation allowed the researchers to describe in detail the development of visually directed researching, visual attention, visual accommodation, and related behavior. In order to test if extra handling results in accelerated visual motor development, nurses administered extra handling to each infant for 20 minutes each for 30 days. Measures of overall development, health, and the development of reaching and visual attention were taken regularly for the next 115 days. The second modification of rearing conditions consisted of enriched visual surroundings. Measures have included biweekly Gesell test, weekly measures of prehensory responses and visual attention, observation and records of weight gain and general health.

White found that many visual-motor processes were remarkably plastic, that the rate of development of behaviors were able to be systematically accelerated and retarded, and that changes were of striking magnitude.

The study by Blank and Solomon (1968) illustrates that abstract thinking can be enhanced by proper educational methods applied early in the life of the individual.

Given the critical importance of cognitive style in academic achievement, the influencing of style via instruction may be of first order significance. The basic assumptions of this program were: the deficit of disadvantaged preschoolers is their lack of a symbolic system by which to organize stimulation; that such a system is best developed by development of abstract language; and that daily individual tutoring sessions are an efficient means to accomplish this objective. Treatment consisted of four months of 20 minute sessions in which teacher and child were alone together. Tutoring focused on "selective attention," "imagery of future events," and "relevant inner verbalization." Five children received individual tutoring daily, five received individual tutoring three times per week, five received individual attention in the regular classroom setting, and seven received no tutoring nor special attention.

Children who received tutoring were found to score significantly higher on the Binet and higher (though not statistically significantly) on the Leiter than children who received no tutoring. Children who had been tutored five times per week scored higher, though not significantly, than those who had been tutored only three times per week. Behavioral improvements were observed and drastic improvements were noted in verbalization and a feeling of mastery by the children in dealing with educational tasks.

The greatest weakness of this study is its small sample size. Two of its more important strengths are: (1) its practical replication in actual classroom situations, and (2) its refusal to accept simple labeling skills as a goal for these children. Blank and Solomon stress "...the child who can label glibly is often deceptive since his facile use of words gives the false appearance of understanding."

The study by Caldwell (1970) demonstrates that infant day care does not adversely influence the relationship between infant and mother. Given the often cited excuse for failure to intervene early in the life of the child, Caldwell's findings are highly important. The aim of this study was to determine whether there were basic differences in the strength of maternal attachment in a group of day care and a comparable group of home-reared infants. Eighteen infants were provided a daily day care program aimed at creating an environment fostering optimal cognitive, social, and emotional development. Enrichment was provided in a context of emotional warmth, trust, and enjoyment. These infants were in the program for a mean duration of 18.8 months. The comparison group was composed of 23 children with no day care experiences.

Assessment included an intensive semistructured interview with mother and child, a home visit including an inventory of home stimulation, the Binet, and behavior ratings of affiliation, hostility, and dependency.

Results showed no significant differences on any of the ratings of child's relationship with mother, or of child's attachment to mother, or mother's attachment to child. Children's developmental level have little or no relation to strength of maternal attachment; there was a suggestion that the better developed infants tended to be more strongly attached to their mothers.

Education in the past has limited itself by the concept that the early years were unimportant to cognitive development and that training must wait until a certain maturational level is reached. The growing evidence indicates the opposite. The early years are a prime time for both prevention and intervention. The value of such intervention is adequately demonstrated in the Ypsilanti Perry Preschool Project which also serves as an example of well-conducted projects in which the elements of careful planning form a theoretical base, individualized instruction, and the enhancement of learning supports in the home are all present and lead to positive results.

In this study by Weikart (1970), one hundred 3-4 year-old children, initially diagnosed as functionally mentally retarded were involved in this study. The treatment consisted of a one-half day preschool program for six months per year for two years. It included weekly teacher visits to the child's home. The program was cognitively oriented and emphasized verbal stimulation and interaction, "verbal bombardment," sociodramatic play, and field trips. Home visits were instructional sessions with mothers and children. A control group of children receiving no treatment was included in the research design.

Results showed the experimentals scoring significantly higher on measures of cognitive performance than the controls; this superiority disappeared by third grade. Experimentals also scored significantly higher on achievement tests in elementary school than did the controls; the former maintained this significant difference throughout the years of follow-up, including third grade. Finally, the experimentals received better ratings by elementary school teachers on academic, emotional, and social development and continued to receive better ratings throughout the follow-up period.

Weikart believes that a number of program factors produced the favorable results. A theory-based (Piaget) curriculum was employed which set a framework for the classroom operation and guided it towards theoretic goals. Staff planning, team teaching, and teacher's commitment was a second characteristic of the project. Teachers were supervised by an experienced teacher and by a member of the research staff. Involvement of mothers in the educational process combined with teachers focusing on children during home visits.

Berger found that the labels, which are often applied to curricula and to teachers, are not important program variables. Berger's report makes it clear that we need to study actual classroom operations to determine the behaviors of teachers or the actual activities of pupils which are operative in a given treatment situation. In this study, three Montessori classes and three "traditional" classes in a New York City public school and a community center were compared. Ninety-three children, mainly of Afro-American or Puerto Rican background, four to four-and-one-half years old, were involved. Observations were made over an 18 month period. Assessment included interviews with teachers, systematic observations, teaching logs, tests of children's perceptual and cognitive skills, and the Binet.

Both groups showed roughly comparable gains on the Binet; no clear trends were noted on performance of cognitive tasks; and a trend toward better performance on perceptual skills appeared for Montessori children in the bottom third of their classroom range. Wide variations in teaching style were found among Montessori teachers and among so-called "traditional" teachers.

Berger concluded that the main variable in all projects is the teacher and not what the curriculum is labeled or supposed to be. "Pupil outcomes are largely dependent upon the individual teacher's mode of structuring the classroom environment, her teaching perferences and capabilities, and the resulting learning press." The more effective programs, in general, were characterized by: (1) greater classroom emphasis on oral language through informal teacher dialogue with children and informal teaching activities, (2) open-ended and flexible teacher-child interactions, affording scope for pupil exploration and spontaneity, (3) wide range of activity choices, leeway for self-expression, imaginative outlets.

The results indicate that an evaluator, when comparing the effectiveness of different theoretically-based curricula and teaching styles, is required to go beyond labels and examine actual classroom operations.

The disparity between correct intent and actual performance has been a problem in the training and evaluation of personnel in school systems. The presence of subtle and complex attitudes influencing the teacher's behavior towards disadvantaged students makes the use of accurate and vivid feedback desirable and may greatly enhance the educational experience of all pupils. The study by Clayton et al. (1969) illustrates the use of feedback practices to produce changes in the instructional behavior of student teachers. This investigation attempted to determine if workshop training of supervisors in the use of feedback practices would produce changes in the instructional behavior of student teachers. A control group of student teachers working with non-workshop trained teachers was employed. The behavior of the student teachers was assessed through pre- and post-testing as well as by a team of raters trained to make systematic observations. The results, although more suggestive than conclusive, give evidence of an increase in congruence between stated intent and actual instructional performance.

The study by Wessman (1969) examines the achievement and emotional adjustment of disadvantaged pupils who experienced a major change in educational setting. Promising but disadvantaged students were placed in private, high quality secondary schools. The 82 students studied came from backgrounds which were impoverished both economically and educationally, either urban or rural, and over 90% of the students were minority group members. They were tested before beginning the eight-week summer transitional program and were also assessed during a two-year follow-up period. The control group consisted of comparable disadvantaged students who remained at their home high schools.

The results indicate a substantial rate of success and of failure both in terms of grades at the end of two years (27% below average or failing, 54% average, and 19% good or outstanding) and also in terms of continuing

their education at the end of four years (26% dropped out, 41% continuing in independent school and 33% admitted to college). The mean IQ of the experimental group was stable while the mean of the control group had a slight but significant decline. Interviews revealed 30% of the students had major adjustment problems during the two-year interval and 40% felt either somewhat apart or very much apart and alone. Faculty rating of personal and social changes in the students were predominantly (75%) positive as were the self rating of the students. These findings were generally confirmed by personality inventory measures but these instruments also showed the students placed in the private schools to be more "tense" and "driven" when compared to the students who remained at their home schools.

Moving disadvantaged boys into a very different and demanding educational environment resulted in a substantial rate of academic failure and a high incidence of emotional strain. The study did not report on the effects of the private school setting on their usual clientele nor did it report the rate of academic failure in the control group. Within these limitations, the study does indicate that in the planning of major changes in the educational experiences of pupils careful consideration must be given to the possible negative effects on the pupils' emotional adjustment. Individual selection on more than academic criteria, and even more important modifications in the receiving school environment appear desirable.

The implementation of change in schools, particularly in the areas of curriculum and professional roles, is often difficult to achieve. The reports by the Pennsylvania Advancement School and the Pittsburgh Title I Project both deal with the problem in terms of a program's relation to the system in which it exists. The results of these reports indicate the need for understanding and cooperative effort from representatives of the various professions in the school and from the parents of the children in the schools. In process, appraisal with continuous feedback appears to be an appropriate supplement to the evaluation procedure for many programs.

The Philadelphia Board of Education employed the services of the Pennsylvania Advancement School, an independent non-profit corporation designed to create new models for the education of underachievers to stimulate positive change in the educational community through staff and curriculum development. PAS also explored the dissemination of change in the schools after training.

The results of a training workshop on the use of simulation games as an educational tool revealed the following: (1) participants rated the workshop as valuable and (2) 42% of the participants in a follow-up study indicated little or no use of simulation games. The reasons given by most of the participants for not making use of the training were the lack of support by department chairmen in getting materials and the pressure of the school situation.

Another report by PAS dealt with the application of group processes and problem solving techniques to problems in the school. The workshop consisted of teams comprised of teachers, counselors, administrators

and members of the respective communities served by the school team. Assessment of the participants revealed a growing sense of progress in the development of working teams which could directly transfer to the school settings what was learned in the workshop. The evaluation of the workshop includes a planned follow-up study.

Training projects must be evaluated in terms of the improvements and changes they generate through the educational system. A project which does not result in adequate dissemination is worse than no project, since it utilizes limited educational resources. Logic indicates project dissemination is more likely to occur when all interested parties are involved in a team effort towards mutual goals.

The Pittsburgh ESEA Title I Project attempted an evaluation of its programs by use of a model which views any educational program as a subsystem within the entire school system. This model stresses the need for continuous feedback to program managers of evaluative information to permit them to make ever more effective responses to improve the whole system. Implicit in this model is the concept that the effectiveness of any program may be thwarted or facilitated by the overall organizational context in which it exists. The model also stresses ongoing evaluation, continuous feedback, and in-process improvement.

The instructional leadership program at Pittsburgh illustrates how elements in the school system can interfere with program effectiveness. The aim of this program was to improve instructional quality by increasing communication among teachers and by a redistribution of administrative and instructional load. Evaluation of the project was based on questionnaire data and visits to the schools. Except at one school which was recently built, most of the schools reported severe handicaps in having regularly scheduled meeting times. The evaluator found that "the concept of instructional groups was in most schools almost non-existent." There was virtually no long range planning. Among the reasons given were: (1) the instructional leaders' class loads remained the same as other teachers' loads, and (2) authority had not been delegated. In contrast the schedules at the new school allowed for a common meeting time for instructional group members. At this school, teachers attributed the innovations in math, English, and vocational education to the instructional leadership program. It was also found that the paraprofessionals, whose original role was to assist in the planning and implementation of instruction by providing supporting services, were employed primarily as area monitors and hall guards. In-process evaluation with continuous feedback may prevent the misdirection of program objectives, lead to better understanding of barriers against implementation, and consequently improve program effectiveness.

B. Survey and Other National Assessment Strategies

It is interesting to note that the dozen studies chosen to make specific points concerning compensatory education do not include large survey studies or any of the efforts at national assessment. The absence of large

studies involving numerous programs and thousands of subjects not only reflects a bias on the part of the authors of this report, this absence also reflects the fact that for most of the substantive questions posed at the outset of this study, national assessment data currently available are inadequate.

This is not to suggest that survey and other national assessment strategies cannot be made to serve useful purposes or to address substantive questions. We only conclude that in their common usage this is not the case. The Study of Equality of Educational Opportunity is generally regarded as the most extensive survey of the U. S. public schools ever undertaken in the history of American education. Thanks to the unusual competence of James Coleman, principal investigator for the study, partial answers to some important questions were provided. But these were largely questions of status: (1) What is the extent of racial and ethnic group segregation in the public schools of the United States? (2) Are the schools attended by children in the United States equal in their facilities, programs, staff and pupil characteristics? (3) What are the achievement patterns of children of different backgrounds as measured by their performance on achievement tests? These questions were answered with reasonable adequacy and accuracy except for those areas which refused to cooperate and for those where reporting units had wide range within unit variation.

Coleman asked a fourth question of his data. What relationships exist between pupil academic achievement and characteristics of the schools they attend? It is in answer to this question that the quality of the investigator and the limitations of the strategy imposed upon him become clearest. Despite considerable insight provided by Coleman as he struggled with this question, he was by no means able to provide definitive answers to this question. In an earlier commentary on this issue, one of the authors of this report has stated:

> When differences in socioeconomic background factors for pupils are statistically controlled, differences between schools account for only a small fraction of differences in academic achievement. 'The schools do differ, however, in their relation to the various racial and ethnic groups.' White pupils seem to be less affected by the quality of their schools than minority group pupils. 'The achievement of minority pupils depends more on the schools they attend than does the achievement of majority pupils.' In the South, for example, 40 percent more of the achievement of Negro pupils is associated with the particular schools they attend than is the achievement of white pupils. With the exception of children from Oriental family backgrounds, this general result is true for all minority groups. Coleman suggests that this finding 'indicates that it is for the most disadvantaged children that improvements in school quality will make the most difference in achievement.' Although the relationship between school characteristics and pupil achievement is relatively modest, several of the characteristics on which predominantly Negro schools score low are among those which are related to pupil achievement. The existence of science laboratories in schools, for example, shows a small but consistent relationship to achievement--Negroes attend schools with fewer of these facilities.

Teacher quality shows an even stronger relationship to pupil achievement, and it increases with grade level. Additionally, its impact on achievement is greater for Negroes than for whites. On measures of verbal skill and educational background, two relatively potent teacher variables, teachers of minority group pupils scored lower than teachers of majority group pupils. Educational background and aspirations of fellow students are also strongly related to pupil achievement. This relationship is less significant for white pupils than for Negro pupils. Coleman found educational backgrounds and aspirations to be lower among pupils in schools Negroes attend than in schools where whites are in the majority. In addition to the school characteristics which were shown to be related to pupil achievement, Coleman found a pupil characteristic which appears to have a stronger relationship to achievement than all the school factors combined. The extent to which a pupil feels that he has control over his own destiny is strongly related to achievement. This feeling of potency is less prevalent among Negro students, but where it is present, 'their achievement is higher than that of white pupils who lack that conviction.' Coleman reports that 'while this characteristic shows little relationship to most school factors, it is related for Negroes to the proportion of whites in the schools. Those Negroes in schools with a higher proportion of whites have a greater sense of control.'

In trying to draw implications from these findings, it is important to consider that Coleman has produced summary statistics which describe certain conditions and correlational statistics which, in turn, describe relationships which may be causal or simply coincidental. Causation certainly cannot be inferred from the strength of the relationships reported. When combined with the problems some critics see in the study, we are advised to move with caution in using the Coleman findings to determine public policy. Such caution, however, need not preclude serious thought and considered action.

In this, the best of the national assessment studies to date, if we can gain access to appropriate populations, if the reporting units are sufficiently homogeneous and if the respondents can be relied upon for accuracy, we find that it is possible to deal with questions of status. However, when we turn to questions of relationships where process and more dynamic variables are important, the grossness and imprecision of the survey and national assessment render them inadequate for more than the determination of suggested relationships which for understanding require more precise strategies.

When one reviews the several attempts at a national assessment of Project Headstart, we are again confronted with findings which speak adequately to questions of status but become foggy in their imprecision with respect to relational factors. It is to the credit of that program that it turned to smaller and better controlled studies and decentralized data collection in an effort at better understanding the status of the program as well as the relationship between characteristics of treatment and patterns of outcome. In the decentralized strategy not only can data collection be more adequately supervised but the processes of collection

can be made more sensitive to variations in the programs studied. Of even greater importance, however, is the encouragement of the competent investigator on the scene to explore through experimentation and small well-controlled comparison studies a variety of questions related to the processes of development, of learning and of teaching. It is in the synthesis of status data with the data and findings of process studies that the more important questions are likely to be answered.

Public Law 90-247 mandates national evaluation annually on the results and effectiveness of programs conducted under the provisions of E.S.E.A. This mandate reflects their perception of an urgent need for data of two kinds: (1) decision-oriented data (an example would be how resources are presently being allocated), and (2) conclusion-oriented data (an example would be the effectiveness of a specific educational procedure or program). The data generated from the national surveys provide only a limited bases for the making of policy decisions and is lacking in firm conclusions which could be used to improve the education of the disadvantaged.

The problems encountered in conducting broad surveys are numerous and difficult to overcome. Variations in response rate between sample segments within a survey, or between surveys, makes it difficult to integrate findings or even to delineate developments and trends. Aggregating data across projects also presents many risks. Programs with identical objectives, such as the improvement of reading proficiency, may vary greatly in their program characteristics and may also involve different pupil subpopulations which may in turn vary extensively in their characteristics. Standardized and uniform measurement practices have not been employed. Different achievement tests have been used, at different times of the year, and with varying intervals between pre- and post-testing. There is no reason to assume that testing took place under uniform conditions. Teachers vary in their expertise in this area and there is a growing body of knowledge indicating that test scores can be significantly influenced by a number of variables present during the administration of tests. It is important to recognize that surveys do not deal with data which come from the manipulation or control of program variables, from randomly assigned pupils to specific treatments, and the specific association of these input variables with outcomes. These conditions are essential for substantive conclusion-oriented data.

Conclusion-oriented data require the employment of research design criteria in such crucial data qualities as the representativeness of experimental and comparison groups, control over treatment variables, and the adequacy of the measurement procedures used. These criteria can best be established and maintained in carefully planned and executed small scale studies.

C. Evaluation Research: Purpose, Design Interpretation, Policy Determination

But one would have to be very naive to assume that, because we know the limited utility of survey techniques in answering substantive evaluative research questions, we will see an immediate retreat from this kind of research and an embracing of other techniques. The practical, administrative, and political situations demand that we have status information and as much substantive knowledge as we can cheaply and quickly come by. We turn then to the questions of what are the uses of national assessment survey data and how can these techniques be better used.

Suchman has proposed five categories of criteria according to which success or failure of a program may be evaluated. These are:

a. Effort;
b. Performance;
c. Adequacy of Performance;
d. Efficiency; and
e. Process.

Effort has as its criterion of success the quantity and quality of activity that takes place. In the assessment of Title I programs we want to know "what was done," "what services were performed," "who was served by whom," "how much," "how often" and a variety of other questions designed to describe the extent and nature of the program. These questions can be answered through survey techniques. They can be more reliably answered through ~~second party observer or~~ interview techniques than through self-report survey questionnaires.

Performance has as its criterion the result of effort--the impact or effect of the activity which has been determined to have occurred. If objectives are clear and an adequate criterion measure has been applied, data referable to that measure can be collected through survey techniques. Again, accuracy and reliability can be enhanced through the utilization of second party observer-interviewers, assuming that measurement of criterion mastery has been objective. Some recent experiences in pupil progress assessment related to new efforts at accountability suggest that the pressure to have pupils show significant gains in test scores has resulted in inappropriate measurement procedures and data manipulation.

Adequacy of Performance refers to the degree to which effective performance is adequate to the total amount of need. In this category, a Title I assessment effort would be concerned with the number of children in need of special services and the degrees to which they failed to meet specified criteria. Data referable to number and degrees of need can be collected utilizing survey techniques. It would also be necessary to obtain outcome data referable to the target population number and degree of need categories established. Survey techniques can be applied here, but it is important to note that, as the reporting procedures become more complex, accuracy and cooperation are likely to go down. The initial 1965 Head Start assessment looked excellent on paper, but depended too heavily on the cooperation and competence of practitioners in the field who not only lacked skill but were also lacking in commitment to the evaluation reporting tasks.

Efficiency is concerned with how good the treatment is when compared to other strategies, is there a better way, easier way, or cheaper way. Efficiency is concerned with determining if there are alternatives which can produce the same results or more for less of any of the input variables. Here we get into planned variation or the study of natural variation in the population of programs. The latter can be managed utilizing survey techniques. The former usually requires on-the-spot intervention. However, in surveys of naturally occurring program variation it is particularly important to know whether what is reported as different actually is different--whether the elements alleged to be present or absent actually are, and to what extent they reach the children for whom they are designed. In comparison studies like these, the validity of the treatment report becomes crucial--is the program what it claims to be and has it been appropriately applied to the target population. National assessments have not been very successful in answering questions of efficiency.

Process as a category of criteria according to which a program may be evaluated is concerned with explanation--how and why a program works or does not work for whom when and where. Some might argue that this is not an evaluation question but a research question. We have earlier taken the position that the ultimate questions in any evaluation cannot be distinguished from those of research. To quote Suchman, "making sense of the evaluative findings is the basic reason for adding a concern with process to the evaluation study." Without it one is left with descriptive results, no matter how sophisticated the statistical or graphic presentation. The analysis of process requires (1) the objective and systematic specification of the elements and operations of the treatment variable or variables; (2) the objective and systematic specification of the characteristics and functions of the population with special attention given to the nature of the relevant independent subject variables and dependent subject variables; (3) the objective and systematic specification of the situational context in which the treatment occurs; and (4) the objective and systematic specification of anticipated as well as unanticipated outcomes. In dealing with this process category of criteria, we are well beyond the sphere of survey techniques. It is to be recalled that it was on the shoals of process analysis that the Coleman Report floundered. He was wise enough, however, not to attempt to deal with process in that national survey, but this absence none-the-less limited the interpretations which can be drawn from his findings.

Following the Suchman classification it appears that survey techniques as utilized in the Elementary Education survey can be used to determine aspects of the status of effort and performance. As we move to questions of adequacy, efficiency and process, dependence on the survey becomes progressively inadequate. Given the problem of mandated national assessment, the Office of Education may want to give consideration to combinations of effort. For example, the Elementary Education Survey could be used to determine:

1. program characteristics (number, kind, location, magnitude, staffing patterns, elements of program, program objectives, etc.);
2. population characteristics (including nature and degree of need);
3. budget characteristics;

4. situational characteristics (economic, political, social, geographic, demographic, etc.);

5. opinion measures of impact; and

6. criterion measures of impact.

These data could be used to indicate various aspects of status and appropriate analysis could reflect some elements of performance or impact. If the attributes under each of the five categories are sufficiently delineated, some simple relationships could be determined. All of this is, ofcourse, based on the assumption of accurate data and general respondent cooperation. To support this assumption and to, thus, strengthen the inferences which could be drawn from the survey data, the major variables could be defined and standard criterion measures established. In addition, field teams could be utilized to conduct site visits for the purpose of parallel data collection on a randomly selected sample of programs. If the site visit locations were designated after the status data were reported and the data from the two sources were congruent, there would be provided greater confidence in the total data pool.

In a similar manner, if several small carefully designed and controlled performance, adequacy of performance, efficiency and process studies were conducted, the data from these small studies could be compared to the data from the survey as could be the findings. Where the national assessment data and findings closely correspond to those of these controlled studies, confidence in the survey data and findings would be enhanced. In fact, the findings from the efficiency and process studies could contribute to better understanding the findings from the other studies and thus provide a more appropriate basis for policy determination and new program design.

The evaluative research problems and issues which have been discussed in this section and in Section I are deserving of serious attention. However, an exclusive focus on technical problems of evaluation can be illusionary, particularly in this field. Suchman calls attention to an important issue. He has written:

> To some extent evaluative research may offer a bridge between "pure" and "applied" research. Evaluation may be viewed as a field test of the validity of cause-effect hypotheses in basic science whether these be in the field of biology (i.e., medicine) or sociology (i.e., social work). Action programs in any professional field should be based upon the best available scientific knowledge and theory of that field. As such, evaluations of the success or failure of these programs are intimately tied into the proof or disproof of such knowledge. Since such a knowledge base is the foundation of any action program, the evaluative research worker who approaches his task in the spirit of testing some theoretical proposition rather than a set of administrative practices will in the long run make the most significant contribution to program development.

Now it is infinitely easier for the evaluative research worker to be concerned with testing some theoretical proposition if the program to be evaluated has been developed out of some theoretical grounding. It is to the shame of so many workers

in this field that Title I and other compensatory education efforts tend to be sets of administrative devices or practices. There is little to indicate in the mass of these programs that they have been conceived out of any system or organized thought about the nature of development and learning. Even for those programs which have been based on more carefully developed models, the adoption of the model generally reflects the acceptance of a trend or an investigator's reputation and not the examination of alternative theoretical constructs as the basis of the decision. This condition would not be so serious were it not for the fact that we know so little about the educational rehabilitation and habilitation of the disadvantaged.

Let us return for a moment to the studies summarized in Section II. Our major findings and conclusions may sound encouraging but on close examination there is no major new finding reported there. From the many studies reviewed, we are able to draw only very general and tentative conclusions. Analysis of the items in the Matrix provides us with not a single identifiable specific treatment or program for any known educational disability. We are unable to specify the nature of the need of any particular category of child and consequently unable to specify a treatment. This is the state of affairs after more than five years of effort and more than 10 billion dollars spent in those efforts. Improving evaluation techniques is not going to solve the problem of ideationally sterile programming.

Some planners have argued for more money concentrated in fewer locations as a strategy for solving the problems of this field. It is certainly true that there are very few locations where it can be said that funds adequate to the task have been provided. Looked at nationally we are probably spending about 2 billion dollars per year for special educational programs for the disadvantaged. When Cohen estimated the cost of the necessary effort almost 3 years ago, he gave a figure of 10 billion dollars annually. Gordon and Jablonsky were also asked at that time by the Civil Rights Commission to design a program and estimate its cost. The Gordon and Jablonsky estimate was 50 billion additional dollars annually or twice as much as was being spent by the entire public education establishment in 1968, and five times the Cohen estimate. Either of these figures would represent a massive transfusion. Either would represent an essential ingredient for optimal educational development for the people of this country, but even funds of this magnitude will not provide conditions sufficient to the tasks. Before large additional sums are invested, a strategy must be developed.

A strategic attack upon a problem is programatic. The nature of the problem is determined, several tactics are developed to deal with the manifold nature of the problem. Tactics are ordered and sequenced. Priorities are established. Resources are deployed in relation to differential and sequential need. Political and social situational factors are taken into account and planned for. When these and other preparations have been tended to, one is better prepared to begin spending money and may have a program or strategy worthy of the evaluative research effort necessary to answer some of the crucial questions in this field. A recent experience in one of our major cities is illustrative of the insufficiency of adequate funding. Ten million dollars annually were allocated to one of the authors of this report to conduct experimental programs in thirteen elementary schools. Some of the steps enumerated were undertaken but most were not. The program was less than three months old when it became clear that social and political problems related to the teachers union and certain elements in the

communities to be served were making aspects of the program impossible to implement. New functions had been prescribed for teachers but teachers had not been trained to perform them (they also had not been convinced that they could and should perform them). The program required changed relations and procedures in the bureaucracy, but the bureaucrats were not ready for change. Different program elements had been prescribed for different schools, as if we were unaware that pupil needs varied within schools and that program elements should be specific to pupils and not to the school buildings to which they are assigned. The fact is that after 30 million dollars and three years of frustrated effort, while there has been some improvement in these schools and in the achievement of the pupils, it is impossible to find 30 million dollars worth of change or new developments in this field.

More important than simply adding money is the need to allocate new and more money for specific kinds of efforts under specified conditions. For example, instead of a national assessment or the simple concentration of funds in particular locations, new monies could be assigned to well-conceived programs having adequate theoretical foundations and coupled with adequate process-oriented evaluation. In these cases program and evaluation funds would be concentrated but quality of program and evaluation would not be left to chance. Under these circumstances random assignment of pupils to treatment and comparison groups could be assured; program elements could be specifically designed in relation to pupil needs, systematically varied for studies of efficiency, and systematically analyzed for studies of process. It will not be until we take the problems of programming and the problems of evaluation seriously and allocate the necessary thought, time and money that the important questions and issues will be served by evaluative research.

Section III: List of References

Berger, Barbara. A Longitudinal Investigation of Montessori and Traditional Pre-Kindergarten Training with Inner-City Children. Three Part Study, New York: Center for Urban Education, Curriculum Development Committee, 1969.

Blank, Marion, and Frances Solomon. "A Tutorial Language Program to Develop Abstract Thinking in Socially Disadvantaged Preschool Children," Child Development, 39(2): 379-389, June, 1968.

Caldwell, Bettye, M., and others. "Infant Day Care and Attachment," American Journal of Orthopsychiatry, 40(3): 397-412, April, 1970.

Clayton, Thomas E. Preparing Beginning Teachers for Working with the Educationally Disadvantaged: A Continuing Study of the Influence on Student Teachers of a Training Program for Cooperating Teachers. Final Report. Albany: New York State Dept. of Education, Division of Research, 1969. ED 036 460.

Cohen, David K. Policy for the Public Schools: Compensation or Integration? Paper presented at the National Conference on Equal Educational Opportunity in America's Cities, Washington, D. C., November 16-18, 1967. 40p. ED 016 715.

Fogel, Yvonne, and Ruth Ryals, eds. ESEA Title I Projects Evaluation Report 1968, Vols. I and II, Pittsburgh: Public Schools, 1968.

Gordon, Edmund W., and Adelaide Jablonsky. Compensatory Education in the Equalization of Educational Opportunity. Paper presented at the National Conference on Equal Educational Opportunity, Washington, D. C., November 16-18, 1967. 51p. ED 013 863.

Pennsylvania Advancement School. Philadelphia. [Descriptive Study of the Pennsylvania Advancement School: Interdisciplinary Team, Reading Teams, Simulations Training Workshop, and Underachievers], 1970.

Pennsylvania Advancement School, Philadelphia. [Participants' Reactions and Students' Responses to the Pennsylvania Advancement Schools], 1970.

Suchman, Edward A. Evaluative Research: Principles and Practice in Public Service and Social Action Programs. New York: Russell Sage, 1967.

Weikart, David P., and others. Longitudinal Results of the Ypsilanti Perry Preschool Project. Ypsilanti, Michigan: High/Scope Educational Research Foundation; Ypsilanti Public Schools, 1970.

Wessman, Alden E. Evaluation of Project ABC (A Better Chance): An Evaluation of the Dartmouth College-Independent Schools Scholarship Program for Disadvantaged Students. Final Report. Hanover, New Hampshire: Darmouth College, 1969.

White, Burton. "Informal Education During the First Months of Life," in Early Education: Current Theory, Research and Practice, ed. Robert D. Hess and Roberta M. Bear (Chicago: Aldine Publishing Co., 1968), pp. 143-170.

Abstracts of Other Studies and Programs

The studies and programs listed here are considered to be useful documents in this field for reasons of descriptive worth, of research or program techniques, or for other, less tangible reasons such as the inclusion of valuable innovations. They were all examined by the staff, but are not represented on the matrix in section IIB due to the lack of an adequate delineation of the nature of the input variables, to a lack of evaluation procedures which make causal relationships possible, or to a lack of statistical analysis. Many are discussed in section IIC.

Bondarin, Arley. "The Racial Balance Plan," White Plains, New York. A Report. New York: Center for Urban Education, 1968. 47p. ED 034 814

This report presents both a description of the White Plains Racial Balance Plan and an evaluation resting heavily on pupil achievement data. Areas covered include: background information, student population and facilities, personnel, population stability, parent and teacher opinion surveys, pupil attitudes and behavior, analysis of comparative academic achievement before and after institution of the plan, and finance.

Brody, Lawrence; and others. Discovering and Developing the College Potential of Disadvantaged High School Youth: A Report of the Third Year of a Longitudinal Study on the College Discovery and Development Program. Report No. 68-2. New York: City University of New York, Division of Teacher Education, 1968. 201p. ED 034 809

This report examines the College Discovery and Development Program, which seeks to identify underachieving disadvantaged high school students with college potential, to increase their academic motivation, to improve their scholastic achievement, to develop their acceptance of college study as a realistic expectation for themselves, and to facilitate their college success. The report, which includes specialized topical essays and summaries of adjunct studies, details comparisons of the first and second year participants at intake, the achievement for the first year group in the eleventh grade, the achievement for the second year group in the tenth grade, the effects of the summer program, curriculum, college consultants, and guidance services.

Brody, Lawrence; and others. Discovering and Developing the College Potential of Disadvantaged High School Youth: A Report of a Longitudinal Study on the College Discovery and Development Program. Report No. 69-1. New York: City University of New York, Division of Teacher Education, 1969. 152p. ED 035 675

This report examines the College Discovery and Development Program, which seeks (1) to identify underachieving disadvantaged high school students with college potential, (2) to increase their academic motivation, (3) to improve their scholastic achievement, (4) to develop their acceptance of college study as a realistic expectation for themselves, and (5) to facilitate their college success. The report, which includes specialized topical essays, details the characteristics of the third year group of participants at intake, their aptitude and previous achievement, the effects of the summer program, achievement and attendance, guidance services, college consultants, and graduation and college acceptance.

Busse, Thomas V.; and others. Environmentally Enriched Classrooms and the Cognitive and Perceptual Development of Negro Preschool Children. 1970. 35p.

The objective of this study was to determine the relationship between play materials and the cognitive and perceptual development of young children. Two Head Start classrooms in each of six areas of a large city were paired for physical facilities and equipment. Subject children totaled 78 experimentals and 83 controls. The six experimental classrooms received additional equipment and supplies specifically chosen to augment cognitive development and/or social interaction; e.g., magnets, puzzles, dolls, puppets. The Binet, WPSSI, and ITPA were administered in November and again in May. Teachers' encouragement of the use of equipment and teachers' effectiveness in fostering cognitive learning were studied by observing them over a six month period. (None of the teachers were certified to teach at the preschool level.) Results showed that: (1) control children gained significantly more than experimental children on two parts of the WPSSI and the reverse was true for a third part; (2) control and experimental teachers did not differ significantly on encouragement of the use of equipment; (3) based on observer ratings, the control teachers were found to be slightly more effective in fostering cognitive learning. The authors concluded that "A 'properly' equipped preschool classroom is apparently not a panacea for the problems of disadvantaged children."

Carrigan, Patricia M. School Desegregation via Compulsory Pupil Transfer: Early Effects on Elementary School Children. Final Report. Ann Arbor: Public Schools, 1969. 433p. ED 036 597

This is an extensive study of Ann Arbor's first school desegregation effort, involving the 1965 closing of Jones elementary school and subsequent reassignment of its predominantly Negro population to predominantly white schools. The research focused on the first year of school desegregation, exploring academic, social, behavioral, and attitudinal characteristics (1) in the children transferred from Jones, (2) in a racially mixed group from Mack School (with no change in school setting), and (3) in predominantly white receiving-school children. At the end of a year of desegregated schooling, half the transfer pupils showed five or more points gain in IQ, and 37 percent showed normal or greater gains in reading. However, gains made by the transfer group were smaller, on the whole, than gains made by the other two groups. Forty Negro transfer pupils (still in elementary receiving schools), studied in a limited follow-up two years later, were at best holding their own academically, relative to national norms. There was no evidence to suggest that the normal progress of white receiving-school children was interrupted by the transfer.

Carton, Aaron S. Corrective Reading Services for Disadvantaged Pupils in Nonpublic Regular Day Schools. Evaluation of New York City Title I Educational Projects, 1966-67. New York: Center for Urban Education, 1967. 78p. ED 034 008

The main objective of the New York City Corrective Reading Project, funded by the Elementary and Secondary Education Act, Title I, was the improvement of reading competence in students with reading retardation of one year or more in grades 1-4, or with retardations of two years or more in grades 5-8. The program was implemented in 171 non-public regular day schools whose student bodies were derived from low-income families. Corrective reading teachers, responsible to and employed by the New York City Board of Education, visited the schools on a part-time basis. This group of teachers was specially trained and these teachers are evaluated along with the evidence of improved reading performance, attendance and attitude toward school. Interview and questionnaire forms used in the program are appended.

Chertow, Doris A. Project Head Start: The Urban and Rural Challenge. Final Report. Syracuse University, New York, 1968. 303p. ED 022 527

An analysis of two rural and two urban Head Start centers in the state of New York during the school year 1966-67 attempted to find out if rural-urban variables affect the administration of Head Start programs. The four programs were compared in terms of (1) community socioeconomic characteristics, (2) administrative organization, (3) pupil recruitment, (4) staff, (5) parent involvement, and (6) follow through. Data were collected during field trip interviews and from examinations of proposals and office files at the centers. All Head Start programs were nursery-school, rather than academically, oriented. Results indicated that urban bureaucracy caused depersonalization of the staff and required more written reports than small rural administrative units. However, urban centers had better facilities, a wider range of personnel from which to choose teachers and aides, and a more heterogeneous population from which to recruit children than rural counterparts. Rural centers suffered from transportation problems and from unavailability of social, health, and psychological services. The advantages and disadvantages of Head Start centers being attached to a public school system are also discussed in the report. Appendix A is an interview guide used in the study. A bibliography is included.

Cohen, Harold L. Measuring the Contribution of the Arts in the Education of Disadvantaged Children. Final Report. Silver Springs, Md.: Institute for Behavioral Research, 1968. 192p. ED 024 746

This research project attempted to evaluate changes in the specific educational behaviors of 73 underachieving urban Negro children and seventeen underachieving middle-class white children who participated in the six-week Friends/Morgan (F/M) summer demonstration program in the arts. Training sessions on applied operant theory and environmental design were held by the Institute for Behavioral Research for the F/M teachers and student interns to assist them in developing explicit measurable goals and procedures necessary to fulfill the goals of the program. The changes in the scores of the major experimental group were compared with those of a comparison group drawn randomly from the entire school population (not only underachievers). Other behavioral data relative to these changes were accumulated. The Flanagan Aptitude Classification Tests measured the effects of participation in the program on the student interns. Photographic slides recorded the children's involvement. An appendix contains the script of an audiovisual presentation which overviews the entire F/M project.

Coleman, James A.; and others. Equality of Educational Opportunity. Washington, D.C.: U.S. Office of Education, 1966. 743p. ED 012 275

The product of an extensive survey requested by the Civil Rights Act of 1964, this report documents the availability of equal educational opportunities in the public schools for minority group Negroes, Puerto Ricans, Mexican-Americans, Oriental-Americans, and American Indians, as compared with opportunities for majority group whites. Comparative estimates are made on a regional as well as on a national basis. Specifically, the report details the degree of segregation of minority group pupils and teachers in the schools and the relationship between students' achievement, as measured by achievement tests, and the kinds of schools they attend. Educational quality is assessed in terms of curriculums offered, school facilities such as textbooks, laboratories, and libraries, such academic practices as testing for aptitude and achievement, and the personal, social, and academic characteristics of the teachers and the student bodies in the schools. Also in the report is a discussion of future teachers of minority group children, case studies of school integration, and sections on higher education of minorities and school nonenrollment rates. Information relevant to the survey's research procedures is appended. Notable among the findings on the survey are that Negro students and teachers are largely and unequally segregated from their white counterparts, and that the average minority pupil achieves less and is more affected by the quality of his school than the average white pupil. This document is also available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, for $4.25.

Conners, C. Keith; and Waller, David. Beliefs, Attitudes and Behavior of Teachers of Headstart Children. Baltimore: Johns Hopkins University, School of Medicine, 1966, 16p.

Thirty-one teachers of the Baltimore summer 1965 Head Start program were asked to state their beliefs on topics such as education, punishment, and welfare. These statements were coded on the basis of concreteness-abstractness and relativism of truth. Findings showed that about 2/3 of the teachers demonstrated "the most concrete belief system," and that these teachers had certain behaviors in common--e.g., they tended to leave the classroom more often than oth teachers, they talked to adults rather than with children, and they indulged in behavior unconnected with preparation or actual teaching. The more "abstract" teachers emphasized more concern for rights and welfare of others in the classroom. There were no relationships between teacher belief systems and the amount of PPVT change in the summer program. (The authors suggest, however, that the PPVT is probably too limited as a measure of the kind of cognitive growth which teacher belief systems will influence.)

Cormier, William H. Effects of Approving Teaching Behaviors on Classroom Behaviors of Disadvantaged Adolescents. Knoxville: University of Tennessee, 1970. 115p. ED 040 974

The aim of this study was to determine the effect of social reinforcement by the teacher on the classroom behavior of economically disadvantaged adolescents. The study also investigated the length of time necessary to demonstrate marked changes in behavior and the effect of social reinforcement on non-target class members. Subjects were six eighth-grade classes. Three students in each class were identified by the teacher as disruptive (target students) and were the object of social reinforcement techniques. Teacher and student behavior was observed and recorded during a baseline period of several weeks, and then teachers were instructed in the principles of social reinforcement. Further observations were made during a random sequence of varied-length control and experimental conditions. Analysis of student behavior revealed a significant change in the behavior of both target and non-target students during experimental conditions. There was also a significant difference between short and long time periods. It is concluded that social reinforcement can improve the classroom behavior of economically disadvantaged adolescents. Further research is recommended with middle class adolescents. (Forty pages of data tables are appended.)

Cox, Helen R. Effect of Maternal Attitudes, Teacher Attitudes, and Type of Nursery School Training on the Abilities of Preschool Children. Final Report. Washington, D.C.: Catholic University, 1968. 94p. ED 028 844

The purpose of this study was to assess the importance of teacher attitudes, maternal attitudes, and traditional versus Montessori nursery school training on the learning and achievement of the preschool child. Eighty-two middle class children and thirty-eight disadvantaged children who attended either Montessori or traditional preschools comprised the sample. The children were tested in the fall on the Stanford-Binet and Peabody Picture Vocabulary Test and retested in the spring with the Caldwell Preschool Inventory and the Stanford-Binet. Teachers of nursery school classes completed the Minnesota Teacher Attitude Inventory, and mothers of the children completed the Maryland Parent Attitude Survey. Results of the study showed that middle class Montessori children scored significantly higher on personal-social responsiveness, associative vocabulary, and total test scores than middle class children in a traditional nursery school program. Disadvantaged Montessori children also obtained significantly higher scores than did their counterparts in a traditional program. Further findings indicated that democratic teacher attitudes were not highly related to preschool children's achievement and that maternal attitudes had no significant effect on the achievement of these children.

Dispenzieri, Angelo; and others. The College Discovery Program: A Synthesis of Research. New York: City University of New York, Research and Evaluation Unit for Special Programs, 1969. 76p. ED 041 070

In its initial years of operation the College Discovery Program (CDP) has demonstrated the feasibility of providing higher education at the university level to underprivileged and educationally deprived youths. Minority group enrollment constituted approximately four-fifths of the total population of CDP students, while fewer than one-fifth of the regularly matriculated City University students were from comparable deprived groups. Of the first two entering classes, 202 CDP students obtained their degrees at community colleges by January, 1968; most of these students (178) eventually went on to senior colleges. Even for students not earning degrees, research data suggests other personal gains result from exposure to college experience; data indicated that the majority of CDP participants were committed to the goal of higher education and had positive attitudes toward college. Many of the students who left the program resumed their education or expected to resume it at a later date. Finally, exposure to the CDP experience increased the possibility that students will transmit positive attitudes toward higher education to their families, to the communities from which they came, and to the general public.

Dunham, Richard M. Project Know How: A Comprehensive and Innovative Attack on Individual Familial Poverty. Tallahassee: Florida State University, Institute of Human Development, 1969. 397p.

The goals of this program were to stabilize families by reinforcing the members in normal familial roles and to normalize the intelligence of the offspring by providing a sufficient level of adult attention and intellectual stimulation. Fifteen white and fifteen black families were accepted each year in each of three conditions--experimental, middle class control, and lower class control; they were admitted to the Project on the child's first birthday and retained until that child entered school. The four major parts of the Project were: (1) Preschool Training Program providing verbal and environmental stimuli; (2) Assisting Mothers Program which attempted to change the mother's behavior and thus influence the child's intellectual development; (3) Fathers' Program emphasizing crisis counseling, occupational training and placement; (4) health education and care. Assessment instruments included the Binet, Bayley Infant Scales, Schaefer Language Development, observations, Palmer Training and Assessment, Occupational Histories, and Event Sampling. Interim results showed: (1) large differences in children's test scores at entrance age; (2) mean IQs of the lower class black children were not increasing as were the middle class whites; (3) mothers' behaviors were changing--e.g. food preparation behaviors; (4) 58 percent of experimental fathers were enrolled in occupational or general educational programs whereas none of the controls were.

Dusewicz, Russell A.; and Higgins, Martin J. Toward an Effective Educational Program for Disadvantaged Infants. 1971. 10p. ED 047 045

This study attempted to determine if significant and lasting cognitive gains could be achieved by focusing preschool efforts upon children younger than those now being serviced by traditional programs--children under three years of age. Thirty-six disadvantaged children, 19-28 months of age, were randomly assigned to two groups: a Home Group receiving seventy minutes of tutoring in the home weekly and a Center Group attending a four hour per day centrally located cognitive enrichment program. After 125 program days, analyses of covariance of post-test scores (taking pre-test scores as covariates) on the Slosson Intelligence Test, the Peabody Picture Vocabulary Test and the Vineland Social Maturity Scale (VSMS) revealed significant differences favoring the Center Group on the first two measures. Non-significance on the VSMS appeared to be artifactual. The results demonstrate the feasibility and merits of compensatory education with disadvantaged infants in a school setting.

Educational Testing Service, Princeton, N.J. Disadvantaged Children and Their First School Experiences. ETS-Head Start Longitudinal Study. From Theory to Operations. 1969. 259p. ED 043 397

In the summer of 1969, Educational Testing Service (ETS) began identifying the 1,650 3 1/2 year-old children in four sites across the country who would become part of a six-year longitudinal study designed to assess the impact of Head Start. The sites were Lee County, Alabama, St. Louis, Missouri, Trenton, New Jersey, and Portland, Oregon. The children were measured on a large number of relevant variables before any of them had experience with some or no Head Start program. This report (the second of three) describes attempts to design an evaluative program based upon conceptions of the complexity of the human organism and an interaction model of human development. Six chapters present: (1) a short history of the ETS study, (2) impressions of the study communities, (3) measures used in initial assessments, (4) data collection procedures, (5) data storage and retrieval system, (6) plans for data analysis. The seventh and final chapter anticipates the activities of 1969-1970. Four appendixes are included: (a) tryouts of measure, (b) working papers, (c) the ETS-Head Start Longitudinal Study and the Westinghouse Study, (d) project personnel.

Educational Testing Service, Princeton, N.J. Disadvantaged Children and Their First School Experiences: ETS-Head Start Longitudinal Study. A Report in Two Volumes. 1970. 1098p.

This report describes the initial sample of the Longitudinal Study of Disadvantaged Children and Their First School Experiences. The study is concerned with identifying the components of early education associated with cognitive and social development, the environmental and background variables that moderate these associations, and how these moderators produce their influence. The population consists of 4-8 year old children with focus on those children attending Head Start and Follow Through programs. Instruments used thus far include achievement tests, interviews with mothers, observations in classes, observations of mothers with children, interviews with teachers. The report describes initial differences between children who go on to Head Start and those who don't in Portland, St. Louis, and Trenton. Volume I details characteristics of the sample, methodology, findings and future plans. Volume II consists of tables of supportive data. The authors emphasize that this is a preliminary report based on a limited sample.

Educational Testing Service, Princeton, N.J. Disadvantaged Children and Their First School Experience. The Sample: Children Tested in 1969 Operations in the Head Start Year. 1970. 41p. ED 043 391

This report, the third in a series, describes a Head Start longitudinal study of the complex interactions that may take place among child, family, community and program variables. Chapter 1 describes the initial longitudinal sample, based upon information on sex, race, Head Start enrollment, and socioeconomic status. Analyses are given of mothers' and fathers' education and occupation. Chapter 2 gives an account of data collection during the current year of the study, when the children were first enrolled in Head Start classes. The study design calls for two lines of investigation: follow-up of the longitudinal sample, and study of appropriate cross-sectional groups (kindergarten through grade 3). Ther Personal Record of School Experience (PROSE) and the Classroom Observational Rating Scale (Personality) were used throughout the program year to record the children's relationships with peers, teachers, and classroom materials. The children were tested also on a variety of measures of mental, motor, and personality development. Additional data were collected from parent interviews and classroom observations. Teacher and schooladministrator questionnaires are in preparation. The cross-sectional study had not been done at the time of this report.

Educational Testing Service, Princeton, N.J. Disadvantaged Children and Their First School Experiences: ETS-OEO Longitudinal Study. Theoretical Considerations and Measurement Strategies. Appendices Related to Measures. 1968. 485p. ED 037 486

This report is part of a comprehensive study of the cognitive, personal, and social development of disadvantaged children over the crucial period age three through grade three. The aims of the study are to identify the components of early education associated with children's development, to determine the environmental and background factors influencing such associations, and, if possible, to describe how these influences operate. The report focuses on: strategy and tactics in conducting research with the disadvantaged, children's cognitive and perceptual development, personal and social development, physical health and nutritional status, and the impact upon children of the family, the classroom, the teacher, the school, the community, and the tester. A summary of the measurement strategies and procedures, systems design and control, and the analysis of the longitudinal study complete the report. An appendix "a" discusses project personnel. A supplementary volume carries appendices "b" through "f", relating to measures of classroom ratings of children's characteristics, of taxonomy of children's interest, and of contextual differentiations; encyclopedia of proposed measures, by title; index to proposed measures, by variable; and, selection of study sites. [Pages C-5, C-55, G-9, G-10, I-13, L-4, L-5, L-6, and L-7 of the text may not reproduce well because of the small size of the original type.]

Epps, Edgar G. Family and Achievement: A Study of the Relation of Family Background to Achievement Orientation and Performance Among Urban Negro High School Students. Final Report. Ann Arbor: University of Michigan, Survey Research Center, 1969. 147p.

The interaction between community forces and family structure as these relate to levels of aspiration, achievement motivation, and achievement values among Negroes is examined. The total sample consisted of 2,826 Negro and white students from four schools in a large, northern city and four schools in a large southern city. Also involved were two follow-up samples. The following dependent variables were used in most of the analyses: (1) verbal ability, (2) grades in school, and (3) amount of expected future education. Independent variables were grouped as follows: (1) social structure, (2) personality and attitude variables, and (3) family structure. Among the findings were the following: (1) large differences exist between vocabulary test performance of northern and southern urban high-school students; and (2) a student's self-concept of academic ability correlates strongly with his actual grades and anticipated future education. In addition, a study which investigated the effect of race of experimenter and approval or disapproval on need for achievement scores, hostility scores, and vocabulary scores of Northern and Southern Negro students is also reported.

Erickson, Donald A.; and Schwartz, Henrietta. Community School at Rough Rock: An Evaluation for the Office of Economic Opportunity. Chicago: University of Chicago, 1969.

The Rough Rock, Arizona, Community School, a Bureau of Indian Affairs boarding school, is an experimental setting in which local representatives of the community have total decision-making powers over the conduct of the education of their children. Data for this evaluation were collected by means of participant-observations, interviews, questionnaires, as well as from analyses of behavior scales and achievement test results. Comparisons were made with data obtained from other boarding schools at Rock Point and Chinle and other BIA elementary schools. The report describes the cultural and political setting of the schools, the internal processes at Rough Rock, life in the dormitories, the instructional programs, the characteristics and concerns of the teaching staff, as well as pupil anxiety, aspirations, acculturation, and academic achievement. Implications for social policy, educational practice, and research are drawn.

General Electric Co., Washington, D.C. TEMPO. Analysis of Compensatory Education in Five School Districts. Final Report. Volume I: Summary. 1968. 65p. ED 023 532

The results of compensatory education programs were evaluated in five school districts distributed across the nation. These five districts represented a subsample of an earlier evaluation involving eleven districts. Data were gathered on the amount and type of CE and the achievement scores of the pupils participating in CE during the 1965-66 and 1966-67 school years under Title I of the Elementary and Secondary Education Act of 1965. The purpose of the study was to determine whether CE had improved student reading achievement, what types of CE proved most successful, and what pupil-school-environment factors were associated with achievement change. The results indicated increased achievement due to CE among pupils of lower achievement levels. CE efforts in reading appeared to be the most successful. Initial achievement and racial composition were two variables which correlated with changes in achievement. A related document is RC 002 951.

General Electric Co., Washington, D.C. TEMPO. Analysis of Compensatory Education Programs in Five School Districts. Final Report. Volume II: Case Studies. 1968. 192p. ED 023 531

Detailed case studies of each of the five school districts participating in an evaluation of compensatory education (CE) programs under Title I of the Elementary and Secondary Education Act of 1965 are contained in this volume. Technical features and the methodology used in the 1965-66 and 1966-67 school year programs are described. The description and analysis of each district includes: a description of the district and sample school; types of CE activities; allocation of funds for CE; analysis of trends; distinguishing features of successful CE; characteristics associated with success; and a summary. Analytical methods, statistical data, and a description of variables are included, in addition to a bibliography. A related document is RC 002 952.

General Electric Co., Washington, D.C. TEMPO. Survey and Analyses of Results from Title I Funding for Compensatory Education. Final Report. 1968. 227p. ED 022 975

The aim of the study was to provide the Department of Health, Education, and Welfare with evidence as to the productivity of compensatory education (CE) programs for disadvantaged children, particularly the effects of Title I of the Elementary and Secondary Act of 1965 during its first year and a half. Data were collected on pupil performance and exposure to CE in eleven school districts (132 schools); in addition to achievement test scores for 1965-66 and

1966-67, information was gathered on the characteristics of the pupils, their schools, and their communities. Results indicated: (1) a slight decline in average pupil achievement level in the sample schools; (2) a slight improvement in achievement of pupils at the lowest achievement levels in their respective grades; and (3) considerable variation in changes in achievement among school districts. Preliminary results suggested that the amount of improvement was related to level of Title I expenditures. The overall study provided evidence that more specific studies were needed to properly evaluate the effects of Title I.

Glass, Gene V.; and others. Data Analysis of the 1968-69 Survey of Compensatory Education (Title I). Boulder: University of Colorado, Laboratory of Educational Research, 1970. 193p.

In this report, the results of analyses of data collected in the 1969 Survey of Compensatory Education are presented. These data analyses bear on the evaluation of the operations and impact of Title I programs in 9,236 school districts and 32,719 elementary schools, involving 215,995 teachers of 5,733,976 pupils in grades two, four and six. The data analyses are organized around four general questions about compensatory education programs in Title I elementary schools during the 1968-69 school year: (1) the context of families, schools, and communities in which compensatory programs were conducted, (2) the extent of the needs for compensatory education programs and how these needs varied with such factors as pupil's ethnic group membership and propriety of the process of the allocation of resources, and (4) the impact of the programs on academic achievement, personal growth, etc.

Gordon, Edmund W.; and Wilkerson, Doxey A. Compensatory Education for the Disadvantaged: Programs and Practices, Preschool Through College. New York: College Entrance Examination Board, 1966. 309p. ED 011 274

The disadvantaged population is identified and specific compensatory education programs are described in this compendium, analysis, and critical evaluation of compensatory education in the United States. Subjects specifically discussed are--(1) the status of compensatory education, (2) innovations in school programs and staffing patterns, (3) extended school services, (4) parent and community involvement, and (5) compensatory practices in colleges and universities. A critique of compensatory education examines the problems in evaluating programs, assesses major developments, and offers some promising guidelines for conducting these programs. A 101-page "Directory of Compensatory Practices," arranged by state, outlines past and present programs giving specific locations, dates, description, cost-per-pupil, sponsoring groups, information about staff and services, and where to write for information.

Gordon, Edmund W.; and Jablonsky, Adelaide. Compensatory Education in the Equalization of Educational Opportunity. New York: Yeshiva University, ERIC Clearinghouse on the Disadvantaged, 1967. 54p. ED 013 863

In this report to the Commission on Civil Rights, the nature and impact of existing compensatory education programs are evaluated, general criteria for the success of such programs are determined, and the cost for implementation of effective programs is estimated. After a review of nine current compensatory programs the report concludes that present compensatory practices do not sufficiently improve academic achievement in disadvantaged students. However, contrary to the opinions of many, school integration, while highly desirable, does not really solve this problem, and delaying action until the schools become desegregated compounds the existing educational deficiencies of poor children. What is suggested in this report, then, is a comprehensive model for integrated, quality education based upon ten specific criteria for effective instructional programs. This program would begin with intensive and extensive early child care services, and would follow the individual through primary, elementary, and secondary schools. The model optimally includes students from all backgrounds but primarily poor children who cannot achieve academic competence at expected and necessary levels. The program includes an extended school day, week, and year, and provides social, health, and other welfare services. It also provides for work experience and resident camping for older youth. The estimated cost of such a program for the existing 30.4 million disadvantaged children alone is $101 billion a year. However, the equalizing of educational opportunity seems not to be a national "priority goal," and the obtaining of financial assistance will not be easy.

Gotkin, Lassar G.; and others. The Development of a Beginning Reading Program: An Empirically Derived Sequence for the Acquisition of Analytical Skills. Final Report. New York: New York University, Institute for Developmental Studies, 1969. 201p.

A three-year Harlem project in which five-year-olds from socially disadvantaged backgrounds were taught an interrelated hierarchy of beginning reading skills utilizing the Edison Responsive Environments instrument (talking typewriter) was reported. The investigation differed from O. K. Moore's approach in three ways: (1) parsimonious use of instructional time and machines, (2) concern with developing a reproducible set of instructional events rather than individualized programing, and (3) a strong emphasis on engineering an attentional environment rather than a discovery environment. Consequently, emphasis was on development of instructional, behavioral, and motivational strategies. Tutorial strategies were designed to facilitate adapting lesson sequence to nonmechanical or nontechnological modalities. Reading skills are presented in detail as behavioral objectives and programing paradigms related to teaching these skills are described. Two validation studies

and a transfer study are reported. Charts, tables, and references are included.

Greenleigh Associates, Inc., New York. Upward Bound: A Study of the Impact on the Secondary School and Community. 1969. 64p. ED 032 563

This report contains an assessment of the impact of Upward Bound programs on secondary schools and communities. The findings are based on a systematic study and analysis of the relationships observed among the universities, secondary schools, and communities involved in Upward Bound. The study was carried out in sixteen selected cities across the nation to evaluate a variety of different programs in an attempt to determine the effect Upward Bound has had nationally. The recommendations in this report are aimed at providing constructive guidelines for the improvement of the program. This study indicates that Upward Bound has had a significant impact on the student participants, but has had a minimal effect on the internal operations of the secondary schools, the attitudes of the faculties, and the reactions of the local communities. Many aspects of the administration and operation of local programs need improvement. The public relations role of local project directors should be broadened. Above all, it is essential that the program be expanded to include larger numbers of high school students if any tangential effect is to be realized.

Grotberg, Edith H. Review of Research 1965-1969. Washington, D.C. Office of Economic Opportunity, 1969. 58p. ED 028 308

This review of research and demonstration projects includes only those projects supported by the Research and Evaluations Office. No attempt is made to relate these projects or their findings to projects supported by other agencies or institutions. Further, this review excludes all national evaluation studies, i.e., those studies utilizing national samples on the basis of a national evaluation design. They are reported separately. Since the first research and demonstration funding during the summer of 1965, the categories of research and demonstration have tended to become the following: (1) Sub-population Characteristics: (a) Language, (b) Cognitive, Intellectual, and Achievement Behavior, (c) Social-emotional Behavior and Self-Concept; (2) Demonstration Programs; (3) Teacher Characteristics; (4) Parent Participation; (5) Head Start and the Community; and (6) Follow-up.

Hamburger, Martin. Report of the Evaluation Study of the Municipal Cooperative Education and Work Program. New York: City of New York, Department of Personnel, 1965. 73p. ED 012 719

A descriptive evaluation has been made of a New York City cooperative program to motivate potential dropouts and to provide them with supervised, paid employment as an integral part of their high school experience. The basic study sample was confined to groups, boys and girls, in four predominantly Negro-Puerto Rican high schools in New York City. The program was evaluated by (1) intelligence, aptitude, achievement, and attitude tests, (2) interviews and questionnaires, (3) on-th-job observations, and (4) other data which included grade, disciplinary, and anecdotal information. For purposes of comparison, a control group was formed. Significantly, the program group averaged a 5.50 IQ-point increase over the 1.55 point increaseof the controls. The program group improved in general attitude, attendance, and other non-academic behavior. However,while the number of high school graduates among the program group exceeded that of the control group, their level of vocational aspiration did not noticeably rise. Their absence on the job and their lateness was greater than that of regular employees. Yet, such an integrated curriculum which incorporates school and job experiences is important in educating unmotivated disadvantaged youth. Appendixes include abstracts of interviews and data on the program participants, content of the program, and administrative concerns.

Harris, Albert J.; and others. A Continuation of the CRAFT Project Comparing Reading Approaches with Disadvantaged Urban Negro Children in Primary Grades. Final Report. New York: City University of New York, Division of Teacher Education, 1968. 391p. ED 020 297

This extensive report describes the continuation of a project which investigated the reading progress of disadvantaged urban Negro children from first through third grade using two basic teaching approaches The project operated in twelve New York City public elementary schools. Specifically described are the second-grade continuation procedures, the third-grade followup study, and a smaller scale replication study in the first and second grades. The experimental teaching techniques were (1) the skills-centered approach, which included a basal reader method and a phonovisual method, and (2) the language-experience approach in which reading materials were developed from the experiences and verbalizations of the children. The second approach was supplemented by an audiovisual method. In the replication study, an additional "pilot" method was used which combined features of all the methods. Related variables such as sex differences, kindergarten effects, effect of early reading, and teacher characteristics were also studied. Appendixes contain some measurement instruments and extensive statistical tables.

Hawkridge, David G.; and others. Foundations for Success in Educating Disadvantaged Children. Final Report. Palo Alto: American Institute for Research in Behavioral Sciences, 1968. 112p. ED 037 591

The aim of this study was to identify those characteristics of compensatory education programs most likely to be associated with success and failure respectively in producing measured benefits of cognitive achievement. Eighteen well-designed, successful programs were compared with twenty-five matching, unsuccessful programs. The first group was selected in an earlier study. OEC-0-8-089013-3515 (010), from over 1,000 surveyed. Unsuccessful programs were selected in this study from the same sample. Tallies of ninty-one program components were prepared. Each successful program was then compared with one or two matching unsuccessful programs. The component composition of these programs was analyzed both qualitatively and quantitatively. Resulting recommendations for establishing sound programs were, for Preschool programs: (a) careful planning, including statement of objectives; (b) teacher-trainingin the methods of the programs; (c) instruction and materials closely relevant to the objectives; Elementary programs: (a) academic objectives clearly stated; (b) active parental involvement, particularly as motivators; (c) individual attention for pupils' learning problems; (d) high intensity of treatment; Secondary programs: (a) academic objectives clearly stated; (b) Individualization of instruction; (c) directly relevant instruction.

Hawkridge, David G.; and others. A Study of Further Selected Exemplary Programs for the Education of Disadvantaged Children. Final Report. Palo Alto: American Institute for Research in Behavioral Sciences, 1969. 181p. ED 036 668

The principal aims of this study were to identify, select, analyze, and describe educational programs for culturally disadvantaged children from preschool through grade twelve which had yielded measured benefits of cognitive achievement. A literature search (mainly through ERIC) and mail inquiries followed by telephone consultations constituted the identification and selection process for the programs. Sixteen programs finally selected (situated in twelve urban areas in eight states) were visited on site, and as a result, five programs were eliminated. This report thus contains the descriptions of the remaining eleven programs, all meeting the criteria that no program was included unless data available indicated that pupils in the program had achieved statistically significantly greater gains on standardized tests than had controls, or had improved at a rate better than national norms. Programs described were mostly inner-city projects for black children, but two served mainly Mexican-Americans; descriptions relate to the nature, operation, and results of each program. The report also includes detailed descriptions of the

methods and procedures employed in the study. For earlier studies of twenty-one similar programs in two sections, Parts I and II, see ED 023 776 and ED 023 777, respectively.

Hawkridge, David G.; and others. A Study of Selected Exemplary Programs for the Education of Disadvantaged Children. Final Report. Palo Alto: American Institute of Research in Behavioral Sciences, 1968. Part I: 118p. ED 023 776. Part II: 341p. ED 023 777

In Part II of this Final Report each of twenty-one successful compensatory education programs, preschool through grade twelve, is described in enough detail to permit a school district to make a preliminary decision about the desirability of attempting a local replication. Most of the programs are inner-city projects for Negroes, Puerto Ricans, and Mexican-Americans.

Heisler, Florence; and Crowley, Francis. Parental Participation: Its Effect on the First-Grade Achievement of Children in a Depressed Area. Final Report. Wyandanch, N.Y.: Public Schools, District 9, 1969. 19p. ED 039 265

This paper reports an experimental evaluation of the effect of increased parental participation on the education of youngsters in a depressed area. There were four subject groups of children: 263 first graders in attendance during the 1966-67 school year, prior to the parent involvement program; 261 first graders attending during the experimental year of 1967-68, and 224 during 1968-69; and, 87 second graders in attendance during 1968-69. All were from the Wyandanch Public Schools. About five per cent of each class were Caucasian. An effort was made to get parents to visit the classrooms and to talk with the teachers, to assist the school with extracurricular activities, and to be present at programs designed to provide information on the development and education of children. Analysis of the data collected indicates that the beneficial effect of enlisting parent participation in the education of their children in a depressed area on the latter's academic achievement will be discernible only after several years of concerted effort, and will not produce any large, immediate, educational improvement.

Hess, Robert; and others. The Cognitive Environments of Urban Preschool Children. Chicago: The University of Chicago, Graduate School of Education, 1968. 372p. ED 039 264

This report describes the first phase of a two-part study of the processes through which social and economic disadvantagement affect the early cognitive development and educability of urban preschool Negro children. Contents include: the background, conceptual context, and research procedures; the relation of family resources and maternal life styles to maternal cognitive environment and cognitive performance of the child; maternal control strategies and cognitive processes; mother-child interaction; cognitive behavior of mother

and child; mother's language and the child's cognitive behavior; and, socialization to the role of pupil. A summary of preschool project results is included. Extensive appendixes carry samples of questionnaires, interview forms, procedures for administering and scoring various mother-child interaction tests, attitude tests, and behavior ratings, and tabulations of statistical data and results.

Hess, Robert; and others. The Cognitive Environments of Urban Preschool Children; Follow-up Phase. Chicago: The University of Chicago, Graduate School of Education, 1969. 343p. ED 039 270

This is the final report of the follow-up phase of a project begun in 1962 and designed to analyze the effect of home and maternal influence on the cognitive development of urban Negro preschool children. Contents include: the child's school achievement in the first and second grades; stylistic aspects of children's behavior and their susceptibility to voluntary control and regulation; the child's cognitive development; cognitive behavior of mother and child; the child's language; and, the child's exploratory behavior and interests. A summary of follow-up phase results is included. Extensive appendixes carry samples of questionnaires, interview forms, and procedures for administering and scoring various tasks, rating scales, and tests.

Hogan, Robert T.; and Horsfall, Robert B. An Evaluation of a High School Tutorial Program. Baltimore: Johns Hopkins University, Center for the Study of Social Organization of Schools, 1970. 23p. ED 041 095

This study is an evaluation of a summer tutorial program designed to encourage inner city secondary school students complete high school in a manner such that their chances of entering college would be maximized. The subjects in the tutorial group were forty sixteen-year-old boys. The control group comprised twenty-eight high school boys closely resembling the tutorial sample. The program emphasized reading and mathematics, with some attention given to art and physical education. School related attitudes of the two groups were measured with a semantic differential devised specifically for this study. Analysis of the data revealed that: (1) in the last three years of school, there was essentially no difference in the scholastic achievement of the two groups tested; (2) at the end of the program (senior year in high school) the tutorial group's school related attitudes were significantly more positive than those of the control group; (3) for the tutorial group, positive attitudes toward school were not significantly related to intelligence; and, (4) after high school, 82 percent of the tutorial group and eighteen percent of the control group began college. The findings are considered to suggest that attitudinal side effects of educational enrichment programs may have a discernible effect on subsequent striving.

Instructional Dynamics Inc., Chicago. Initial Evaluation of Operation Word Power. 1970. 74p. ED 041 977

Operation Wordpower is a reading program reaching disadvantaged adults and operating in Chicago's urban community areas. The program accepts any person who is reading below the fifth grade level. Instruction is by means of the Sullivan reading materials adapted to the Edison Responsive Environment teaching technology (called "Talking Typewriter") until the students' reading ability improves to the sixth grade level. At this point the students graduate from the program, often moving on to other educational programs. This report is an evaluation of Operation Wordpower, utilizing information already available in the files of each of the four Center sites for a total of 372 students. Two questionnaires, one to determine student opinion and attitudes toward the program and the other to validate student attitudes by using staff responses, were respectively administered to students and staff. These data were used to review student characteristics and attitudes to determine why students drop out, and to evaluate program effectiveness. Findings indicate that the program is effecting an important function in the area of reading improvement, but that it must be made more cost effective by moving to more locations and by instituting a more effective recruitment and motivational program.

Jablonsky, Adelaide. "Some Trends in Education for the Disadvantaged," IRCD Bulletin, 4(2), March 1968. 12p. ED 021 942

This report discusses some "promising" compensatory education programs and presents statistical estimates which identify the disadvantaged population to be served by such programs. The discussion is based on observations of school systems and programs in all sections of the country and on interviews with over two hundred educational administrators who were asked to identify presently or potentially effective programs. The discussion focuses on programs to develop the preschool child's language ability and learning readiness, programs for remedial reading and individualized instruction, programs for children whose bilingualism presents learning problems, and programs for the problem adolescent. In addition, the educational effectiveness of school integration as compared with compensatory education practices is discussed. The importance of administrative leadership in the schools, of parent involvement in the educational process, and of the use of audiovisual equipment are also discussed. Reports of most of the programs referred to in this discussion are available through the ERIC information retrieval system. An annotated bibliography of these reports follows the discussion.

Karnes, Merle B.; and others. Educational Intervention at Home by Mothers of Disadvantaged Infants. 1970. 9p. ED 039 944

The use of mothers of disadvantaged children as agents of educational intervention is investigated in this study. (The complete report will appear in the December, 1970, issue of "Child Development.") The program was designed to aid children's development and to foster a sense of dignity and value in the mothers. One Caucasian and fifteen Negro mothers, all from poverty environments, completed the fifteen-month training program. The initial ages of their children who participated in the program were between thirteen and twenty-seven months. The training program for the mothers consisted of a two-hour meeting every week at which they learned teaching techniques based on the principles of positive reinforcement. The mothers were asked to use these techniques with their children every day. Though an actual control group could not be maintained, comparisons were made with a matched group and with a group of siblings who were not taught with the reinforcement techniques. Comparisons based on the Stanford-Binet, and the Illinois Test of Psycholinguistic Abilities revealed the post-program superiority of the experimental group over both the matched group and the sibling group.

Kirst, Michael W. What Types of Compensatory Education Programs Are Effective? 1967. 18p. ED 015 982

Data on the lasting effectiveness of compensatory education programs are ambiguous. Evaluations have been hampered by a lack of longitudinal studies and controlled experiments and by the imprecision of the standard measures. Effective programs, those which produce increases in learning, should feature (1) curriculum adaptation to the individual needs and environmental realities of poor and/or Negro children, (2) inservice training in attitudes and curriculum for teachers who have not raised students' academic performance to adequate levels, (3) concern for health, welfare, and food needs, and (4) parent involvement. All these features are expensive but high expenditures alone can not guarantee program effectiveness. The More Effective Schools program in New York City has been unable to stop the progressive retardation of disadvantaged youth because it has lacked qualified teachers and individualized innovative instruction. Reports from various studies stress teacher attitudes and expectancy of success or failure as important variables in a disadvantaged child's achievement. Other studies have found that effective individualized instruction--intensive reading teams, tutors, and homework helpers--produces significant academic gains. One study has shown significant I.Q. gains when infant tutoring started at fourteen months. The vastness of Title I programs offers the chance to evaluate systematically what types of compensatory programs are most effective in improving the achievement of the disad-

vantaged student. This paper was prepared for the National Conference on Equal Educational Opportunity in America's Cities, sponsored by the U.S. Commission on Civil Rights, Washington,D.C., November 16-18, 1967.

Lally, J. Ronald; and Smith, Lucille. Family Style Education: A New Concept for Pre-School Classrooms Combining Multi-Age Grouping. 1970. 14p. ED 011 007

This program was "established as an alternate to teacher centered and task centered day care programs." Goals are to allow children similar interactions as they had at home, to provide many experiences from which children could choose and thus help solve Hunt's "problem of the match," nd to give children experiences that will help develop a concern for their needs and rights in relation to those of others. Twenty-seven children, 18-42 months old, were involved. Children have daily contact with other children of varying ages, have access to and freedom of movement among many rooms during the day's activities. Each room, however, has specific function; e.g., large muscle activities, sense-perception, art. Teachers assess needs of individual children and then work with them in small groups or on a one-to-one basis. An evaluation is planned for a later date, but preliminary reports show the children to be reacting to the age-mixing naturally and comfortably, older children to be more observant and verbalizing more about what it is like to be little, teachers feel the program has freed them to spend more time initiating and planning appropriate activities working with small groups or individuals, and that "the children seem always happy. There is less crying and more inter-child laughter and verbalization."

Lang, Melvin. Characteristics and Effects of Rutgers-Upward Bound; Assessment II. New Brunswick, N.J.: Rutgers, The State University, Bureau of Community Services, 1969. 84p. ED 041 968

This report is an assessment of the Rutgers University, New Jersey Upward Bound program, encompassing the following: eligibility criteria for participation in the program, student motivation toward college, student knowledge about college, degree of student knowledge that could be attributed to attending the program, relation of student self concept and changes thereof to participation in the program, the extent to which former students of the program remain in college, academic year activities recommended for continuing student success, leadership roles that the program staff might continue or initiate, and the characteristics of the typical Rutgers Upward Bound Student in 1968. Ongoing activities and practices at Rutgers, comparisons and contrasts with the National Upward Bound Programs in general and with programs in specific regions, and recommendations for program improvement are dealt with. Extensive data tables are included. Appended are a checklist of financial assistance available, film program in summer 1969, special problems of students in the program, and listings of participating school districts, staff, consultants, and committees.

Lang, Melvin; and Hopp, Laurence. Assessment of REAP-Upward Bound. New Brunswick, N.J.: Rutgers Education Action Programs, 1967. 43p. ED 020 257

The impact of an Upward Bound (UB) program on the attitudes, motivation, and academic achievement of disadvantaged students with college potential is evaluated. The program is one of the twenty-one UB programs randomly selected for intensive study. At Rutgers UB students' attitudes and motivation toward college goals, self-evaluation and self-esteem, control and responsibility, interpersonal understanding, and perception of feelings of alienation increased during the summer phases of the program. However, feelings about the importance and possibility of attending college decreased during the academic year. No significant positive change was found in students' orientation towards the future during either phase of the program. Students ranked outstanding program characteristics as--sensitivity to individuals, encouragement of student autonomy, support of self-concept, group harmony, and flexibility in dealing with program problems. The academic achievement of the students during the academic year following their summer experience was positive and greater than the national pattern for UB students. The program was considered "appropriate and effective" for its students. The students' background characteristics are examined in the report.

Mayeske, George W.; and others. A Study of Our Nation's Schools. A Working Paper. Washington, D.C.: U.S. Office of Education, 1969. 909p. ED 036 477

A study of educational opportunities of minority groups was conducted to discover what characteristics of the nation's schools are most closely related to school outcomes. Data came from a 1965 survey commissioned by Congress. A five percent stratified cluster sample, from the nation's public elementary and secondary schools, was used to select the subjects: about 650,000 students (over forty percent from minority groups) from 4,000 schools with their teachers, principals, and superintendents. Test and questionnaire items were grouped into indices that were divided into three groups: student's social background, school's characteristics, and school's outcomes. Regression analysis and partition of multiple correlation were used to pursue the main questions. Major findings: The influence of the school cannot be separated from that of the student's social background and vice versa. Schools exert a greater influence, in terms of both attitude and achievement, on students who have relatively high socioeconomic status, are either white or Oriental-American, and come from homes where both parents are still living together. A school's physical facilities seem unimportant compared with its personnel. The most important personnel characteristic is experience of racially imbalanced educational settings. School outcomes become increasingly related to the 31 school indices the longer the student stays in school. (Complete findings and supporting data are included.)

McDill, Edward L.; and others. Strategies for Success in Compensatory Education: An Appraisal of Evaluation Research. Baltimore: Johns Hopkins Press, 1969. 83p.

This study addresses itself to the quality of evaluation research on compensatory education programs, the knowledge based on such evaluations as to the effectiveness of compensatory education, and the implications of the data that need to be examined for future planning of such programs and for designing studies to test their effectiveness. Research findings on Head Start, Elementary and Secondary Education Act (ESEA) Title I, and Upward Bound programs, along with 11 locally funded programs are described and reviewed. Most notable, reportedly, of the locally funded programs are the Bereiter-Engelmann Academic Program (1964, Champaign, Illinois) and the Peabody College Early Training Project (1959, Nashville, Tennessee), which are also described in detail. Recommendations for fund allocations favor the support of programs with careful evaluative techniques built in (or "control program") and a small number of speculative and high risk programs which could proceed without excessive review and with slow evaluation; the pressing need for effective compensatory education is cited as justifying novel experiment programs. Also recommended is the treatment of the large majority of programs as falling into a category of compromise in regard to program specificity.

National Advisory Council on the Education of the Disadvantaged, Washington, D.C. Title I ESEA: A Review and a Forward Look. Fourth Annual Report. 1969. 94p. ED 037 520

The main focus of this ESEA Title I program review for 1969 is on the problem areas the National Advisory Council on the Education of Disadvantaged Children has identified since its first report in 1966, which the Council feels seems to deserve the early attention of a new Administration and Congress. Major recommendations are as follows: (1) Office of Education (OE) should make a special effort to disseminate examples of demonstrably successful compensatory education programs, such as the selection of twenty-one successful projects described in a special supplement in this report; (2) OE should designate a single visibly placed official to monitor all aspects of Title I participation by nonpublic school children; (3) OE should show state and local personnel the full range of possibilities in using Title I funds for health services; (4) ESEA Title I should be continued substantially as now written; (5) principle of concentrating funds where most needed should be adhered to; (6) the new Administration is urged to offer imaginative leadership in school desegregation and to refuse to back down on this commitment; and, (7) the Executive and Legislative branches should move quickly to close the gap between Title I appropriation and the authorization of a sum of $2.7 billion. Appended are community case studies of nonpublic school children and Title I.

National Institute for Child Health and Human Development, Bethesda, Md.; Public Health Service (DHEW), WAshington, D.C. Perspectives on Human Deprivation: Biological, Psychological, and Social. 1968. 329p. ED 032 687

The work of four task forces on human deprivation is reported. Aspects of deprivation treated include psychosocial deprivation and personality development; influences of biological, psychological, and social deprivations upon learning and performance; socialization and social structure; and biological substrates of development and behavior. For each aspect, research is reviewed and suggestions are made for future research. Also provided is a synthesis of a two-day conference on research policy for psychosocial deprivation which concerned itself with the areas mentioned above.

O'Donnell, Carolyn, Comp. Head Start CRIB. Childhood Research Information Bulletin. Selected Resumes of Early Childhood Research Reports. Bulletin No. 1. Urbana, Ill.: ERIC Clearinghouse on Early Childhood Education; National Laboratory on Early Childhood Education, 1969. 55p. ED 025 318

This compilation of 57 abstracts is directed to the educational community interested in research activities related to Head Start. The purpose of Volume I is to publish resumes of current research reports involving Head Start children. The research projects are concerned with ethnic factors, evaluation of Head Start programs, community influence, teacher effectiveness, bilingual concentration, audiovisual equipment, physical facilities, parent involvement, and followup studies. CRIB will be published biannually.

Peerboom, Pearl. Report on Summer 1967 Site Visits to Pre-Title I Compensatory Education Programs. Washington, D.C.: U.S. Office of Education, Office of Program Planning and Evaluation, 1967. 87p. ED 016 723

This survey was designed to provide operational details about compensatory education programs that have been in existence for a relatively long period and are therefore likely to have adequate bases for meaningful evaluations of their results, and to spotlight good programs with implications for national educational policy. Those programs were selected which had good available evaluations, could produce data to support claims of success, and promised delineation of common elements in success. Good programs generally required high pupil expenditures and added regular and specialized staff. Successful programs offered a greater number of more intensive special services than less successful programs did. The single most important element in a program's success was the quality of the instruction by teachers who felt empathy for the

disadvantaged. Successful programs tried to provide a less structured and formal atmosphere than the ordinary classroom offers, and recognized individual needs. Despite the claim of some educational experts that compensatory education is most effective when offered to primary and preprimary pupils, the most effective programs were designed for the upper elementary and high school grades. Relatively few programs were set up on a controlled experimental basis, and, where evaluative studies were conducted, outcomes were often ambiguous or questionable. The bulk of this document is a description of each of the compensatory education projects participating in the survey.

Posner, James. Evaluation of "Successful" Pre-Title I Projects in Compensatory Education. 1967. 89p.

This report cites various definitions of "disadvantaged," "compensatory education," and "successful" projects. It discusses in detail three principal criteria of success: increasing learning rates, stimulating the school as an organization, and increasing the communication and amount of interaction. It goes into seven difficulties in carrying out evaluations of compensatory education programs: plausibility of inferences, relevance of instruments, definition of outcomes, uncertainty of assumptions, lack of data over time, comparison with norms, and resistance to evaluation. Throughout the report, specific examples are cited and discussed. Conclusions and recommendations are: (1) evaluations show ambiguous results; (2) compensatory education funds should not be spent primarily on one or another age group alone; (3) of perhaps the most significant value are programs accomplishing effective individualization of instruction; (4) a great need exists for more evaluation and feedback to administrators of programs.

Scott, Myrtle; and others. An Analysis of Early Childhood Education Research and Development. Urbana, Ill.: National Laboratory on Early Childhood Education, National Coordination Center, 1969. 319p. ED 039 028

This volume organizes information on research and development in early childhood education. Goals and objectives of the 77 programs reviewed are described, and the strategies for implementing the programs are discussed. Organizational factors and the problems encountered in the programs and projects are considered. There is a short discussion of the conclusions and implications of the preceding. The volume consists of appendixes, which list programs of the National Laboratory on Early Childhood Education, Research and Development Centers, Regional Educational Laboratories, and Cooperative Research Projects. The goals and objectives of these programs and projects are listed, and taxonomy sheets are provided. Each program is summarized according to title, staff, goals, methods, and characteristics of the users. Also listed for each of the 77 programs are expected results, evaluation procedures, relationship to other center programs, and center focus. Time schedules and activities within each program are given.

Sigel, Irving E.; and Olmsted, Patricia. Modification of Classificatory Competence and Level of Representation Among Lower Class Negro Kindergarten Children. East Lansing: Michigan State University, Head Start Evaluation and Research Center, 1967. 72p. ED 021 608

The basic hypotheses were (1) children with detailed exposure to objects would increase in knowledge of the complexity of objects but would also exhibit a corresponding increase in object-picture discrepancy, (2) children exposed only to pictures would show minimal object-picture discrepancy but would exhibit a lower response repertoire, and (3) children using objects followed by pictures would show most increase in classification skills, exhibiting less object-picture discrepancy. The sample consisted of 117 children of lower socioeconomic class from kindergarten of representative inner-city, lower-class schools. Tests administered were the Object-Picture Categorization Test, a Haptic Test, and the Motor Encoding Test. Results indicate that classification training does enhance the child's ability to employ grouping and scorable responses, as well as increase the variety of criteria by which to classify. Detailed results, tables, and appendixes are included. This paper was presented at the Sixth Work Conference on Curriculum and Teaching in Depressed Areas, Teachers College, Columbia University, June 1967.

Sigel, Irving E.; and Olmsted, Patricia. Modification of Cognitive Skills Among Lower-Class Negro Children: A Follow-up Training Study. Report Number 6. Detroit: Merrill-Palmer Institute; East Lansing: Michigan State University, Head Start Evaluation and Research, 1968. 126p. ED 030 480

The four purposes of this study were (1) to test the long-range effects of classification training (CT) on disadvantaged black children, (2) to evaluate the effects of reintroducing CT to those previously trained, (3) to compare CT at two age periods (5 and 6 years old), and (4) to compare CT with attention training (AT). Of the 69 children used in this study, thirty had received CT the year before, and thirty-nine had received no training (NT). CT focuses on the many attributes of objects that may be used as a basis for grouping. AT teaches the child to focus on observable attributes and to discriminate among them. The children were pretested, and 59 of them were divided into six groups: (1) CT-CT (the symbols signifying that the group received CT the previous year and the current year). (2) NT-CT, (3) CT-AT, (4) NT-AT, (5) CT-NT, and (6) NT-NT. Pretraining scores on a battery of grouping tasks indicated that the previous year's training had had a lasting effect, at least in facilitating a more flexible approach to classification in the current year. CT-CT, NT-AT, and NT-CT children showed a significant increase in grouping responses on posttests.

Silverman, Ronald H.; and Hoepfner, Ralph. Developing and Evaluating Art Curricula Specifically Designed for Disadvantaged Youth. Final Report. Los Angeles: California State College, 1969. 97p. ED 030 707

Studied was the effect of art education on productive changes in perceptual, cognitive, and attitudinal styles, and on the art aptitudes of disadvantaged youth. The study examined the assumption implicit in many school programs that art education is somehow beneficial to poor and minority group students. The research design divided teachers of seventh-grade art classes into experimental and control groups. Both groups had pre-experiment orientation sessions and an opportunity to develop a "breadth and depth semester plan." Experimental group teachers were given information on the nature of disadvantaged learners and the structure of art as well as an experimental text and certain art materials. The salient finding of the study was that the art teacher, not art per se, is the key to bringing about behavioral changes in disadvantaged students.

Singer, Harry. Effect of Integration on Achievement of Anglos, Blacks, and Mexican-Americans. Riverside, Cal., 1970. 29p. ED 041 975

Integration in Riverside Unified School District, California, justified on moral, legal, social, and educational grounds, provided a natural time-series experiment for testing the unexpected effects of lateral transmission of peer group values and normalization of instruction on the achievement of Anglos (81.5 percent), blacks (6.1 percent), and Mexican-Americans (10.7 percent). After 1-3 years integration for the various groups, results were analyzed by comparison of 1966-68 post-integration data with 1966 pre-integration cross-sectional data for primary and intermediate grades. Interpretation of these analyses supports the Coleman Report conclusion only partially: Anglo achievement was not reduced, but black and Mexican-American achievement was not improved due to integration. Determinants other than physical integration--very likely psychological and social integration--have to be considered for this continuing disparity in academic achievement. Plans and future research, based on differential input for attaining equal output, are aimed in this direction in the University of California--school district cooperative teacher education and research programs. When these plans become operative, then a test of consequences of a more sophisticated type of integration on the achievement and adjustment of Anglos, blacks, and Mexican-Americans would be available.

Tannenbaum, Abraham J. An Evaluation of STAR on the Effects of Training and Deputizing Indigenous Adults to Administer a Home-Based Tutoring Program to First Graders in an Urban Depressed Area. New York: Mobilization for Youth, 1967. 33p. ED 013 252

To raise the literacy levels of disadvantaged children through the use of indigenous nonprofessionals in a home-based tutoring program the Supplementary Teaching Assistance in Reading (STAR) program offered reading readiness instruction to 490 first-grade children of lower-class Puerto Rican origin. Monolingual and bilingual nonprofessionals either tutored the child in the home with the parent observing and supplementing the instruction or taught the parent directly and had no contact with the child. The lessons in reading readiness were organized around code breaking, formal language, and visual-perceptual exercises. The STAR program was evaluated after six months on the basis of the scores on nine tests of nineteen STAR children, twelve STAR dropouts, ninety reading clinic children who received direct help from reading specialists, and twenty-three controls. The preprogram functioning level of the STAR children was not available for comparison. The results generally indicated that the STAR children had higher mean scores on all nine tests than the other groups. However, in comparison with the national norms of the Metropolitan Readiness Tests, the STAR children were functioning only at an "average readiness status," despite the special intervention efforts. The possible differences between STAR pupils who received direct tutoring from the nonprofessional aides and those who received help from the parent trained by the aide were not significant. No attempt was made to correlate parent involvement and pupil achievement.

Tanner, Daniel; and Lachica, Genaro. The Effects of an In-Residence Summer Program on the Academic-Year Performance of Underachieving Disadvantaged High School Youth. 1967. ED 012 677

A New York City program to identify disadvantaged youth with undiscovered college potential at the end of ninth grade, to improve their motivation and achievement in school work, to develop their expectations for college entrance, and to improve their chances for success in college is described. During the spring of 1965, 579 disadvantaged boys and girls were selected on the basis of earlier school performance, severe socioeconomic handicaps, standardized test performance, and counselor and teacher recommendations. An experimental group of 154 students randomly chosen from the group was given a special eight-week, in-residence summer program on the Columbia University Campus--an Upward Bound Pilot Project designed to overcome educational deficiencies, develop improved attitudes toward learning, and develop more effective study habits. This was followed by a special school-year program given in five high school development centers, including tutorial services, curriculum guid-

ance, a cultural program, remedial work, block-time classes, and individualized instruction. The control group of 424 students was exposed only to the special school-year program. At the end of the school year, the two groups were compared for grades, regents examination scores, attendance, and dropouts. The experimental group showed a slight advantage. Further results and recommendations are given. Tables and references are included. This paper was presented at the American Educational Research Association Meeting (New York City, February 18, 1967).

Teele, James E. The Study of Project Exodus: A School Racial Integration Project in Boston, Massachusetts. Final Report. Boston: Harvard School of Public Health, Department of Maternal and Child Care, 1969. 112p. ED 036 603

This voluntary school integration project uses the open enrollment plan of the Boston School Department in transporting Negro children from predominantly Negro schools in the black district to more racially balanced schools in other parts of Boston. It has involved private financing, intra-city bussing, and the initiative and participation of working class ghetto residents. Attitudinal and achievement tests on the children participating in the Project Exodus in grades three to eight, were obtained at the following times: the fall of 1967 and the spring of 1968. Similar data were collected on a comparison group of children not enrolled in Exodus and attending predominantly black schools in their neighborhood. Collection of change data was completed for 151 children. It was found that the children in Exodus showed greater improvement in change in achievement test scores, although they did not show greater fate control. Further data analysis and research are being done to try to more clearly locate the factors related to improvement in both the affective and cognitive areas for Exodus and non-Exodus children.

Tulane University, New Orleans. Head Start Evaluation and Research Center. Head Start Evaluation and Research Center. Annual Report. 1968. 83p. ED 029 705

To measure the effects of group programed instruction on aspects of reading in Head Start children, the Sullivan Associates Readiness in Language Arts series was used with approximately fifteen children in each of five Head Start classes. An equal number served as controls. Pretests and posttest were Lee-Clark Readiness Test, Murphy-Durrell Analysis, and Gates Reading Readiness Tests. Data provided evidence that the experimental groups had greater achievement in (1) recognition of letter symbols, (2) identifying names of letters, and (3) familiarity with numbers and printed letters of the alphabet. The control groups made greater advances in (1) both similarities and differences in word formation, (2) learning more words in one day under standard conditions of presentation, and (3) being able to understand oral instructions and sensitivity

to sounds of words. Studies are underway in three more areas: moral judgment in young children as a function of selected abilities, behavioral correlates of nutritional states in young children, and conditions under which Head Start's benefits to children and families are maximized. Procedures are outlined for these projects.

U.S. Office of Education, Washington, D.C. Education of the Disadvantaged: An Evaluative Report on Title I, Elementary and Secondary Education Act of 1965, Fiscal Year 1968. 1970. 274p. ED 047 033

This report is concerned with Title I of ESEA, the federal funding provisions most directly concerned with disadvantaged pupils. Pursuant to the Congressional directive, the Commissioner authorized a number of studies including nationwide surveys of educational activities financed with funds drawn from ESEA Title I. One survey of public elementary schools was made during the latter part of the 1967-68 school year, and the results obtained from the survey are current for June 1969. Studies also are conducted and reported regularly by state education agencies, and by each of the approximately 17,000 public school districts that administer Title I funds to support academic projects and related activities. Title I programs for disadvantaged pupils are examined in addition by interested parents' and citizens' committees, and by research scientists who specialize in learning problems of disadvantaged children and youth. Nonetheless, this is considered the first report that endeavors to examine the nature and extent of Title I activities conducted through state and local public education agencies, and the first to examine Title I performance as an instrument of national policy.

U.S. Office of Education, Washington, D.C. The Second Annual Report of Title I of the Elementary and Secondary Education Act of 1965. School Year 1966-67. 1967. 139p. ED 021 946

This report overviews and summarizes the findings of studies of nationwide Title I programs during the 1966-67 school year. It has been found that there were increases in expenditures for instructional services and the purchase of equipment, and more states investigated in the programs than during the previous year. To explain the effect of the programs, in separate sections the report discusses the educational and socioeconomic background of the participating disadvantaged students, and examines specifically the nature of schools in urban areas. One section presents the findings of a study of the effect of Title I on reading and arithmetic achievement as measured by standardized tests (Dayton Study), and another presents brief digests of the annual reports of the programs in the individual states, which highlight their major achievements and exemplary projects. A new survey instrument for obtaining data on Title I participants during their third year of operation is also briefly described. Extensive appendixes and charts and tables offer specific data.

U.S. Office of Education, Washington, D.C. The States Report: The First Year of Title I, Elementary and Secondary Education Act of 1965. 1966. 140p. ED 012 378

The operations and programs conducted under Title I of the Elementary and Secondary Education Act for the education of disadvantaged children are described in a summary of the individual reports submitted by fifty states, three territories, and the District of Columbia. The reports, prepared in response to a U.S. Office of Education (USOE) request for the state annual evaluation reports, cover Title I activities for the fiscal year ending June 30, 1966. The act provides financial assistance to local educational agencies for special programs for disadvantaged children in areas having high concentrations of low-income families. Projects are planned, administered, and executed by local schools after state approval. Broad guidelines for administration of the funds were given by the federal government to insure the money would be spent for children of poverty as Congress intended. Although nearly all of the states distributed the USOE reporting forms to local agencies, the returns were not of sufficient quality to make an accurate evaluation of the effectiveness of Title I programs. Although approximately 92 percent of the local educational agencies met the criteria for eligibility, approximately thirty percent of the eligible agencies did not participate in Title I. Expenditures totaled about 84 percent of the allocations. The average expenditure per pupil of the 8.3 million served was $119, but ranged from $25 to $227. Detailed information on uses of the allotted funds are included in the report.

Vambery, Eva. Evaluation of the Municipal Cooperative Education Program: A Report. New York: Center for Urban Education, 1967. 159p.

This is a report of a followup evaluation done in 1966 of the 1962-63 population participating in the Municipal Cooperative Education Program (MCEP). The MCEP gave high school students in the "general" track an opportunity to divide their time between school and job in order to "acquire skills and work habits which would improve their chances on the labor market." Students worked full-time in a New York City agency every other week and attended double session classes full-time during alternate weeks. The population study included all of the male MCEP participants; three quarters of this population was able to be reached. Instruments included a group interview, an individual interview, and a questionnaire. Findings were: (1) a majority of the participants were given unskilled jobs which offered financial rewards but no learning or training opportunities, (2) participants were given a minimum and non-flexible version of the regular school curriculum and thus sorely lacked the basic education for any of several occupational or learning avenues after high school, (3) participants were in great need of counseling. The author states that "under the guise of help it is irresponsible and damaging to adolescents to assign them to jobs which they find degrading, uninstructive, and which they cannot easily leave." She recom-

mends that the MCEP provide jobs with training and promotion possibilities built in and "in surroundings which are physically, socially, and psychologically desirable." Other recommendations are: exposure to a variety of skills, counseling during all phases of program participation, coordination between job placement and school subject matter.

Walther, Regis H. Methodological Considerations in Evaluative Research Involving Disadvantaged Populations: A Study of the Effectiveness of Selected Out-of-School Neighborhood Youth Corps Programs. Washington, D.C.: George Washington University, Social Research Group, 1968. 34p. ED 028 223

The experience of a research group in studying Neighborhood Youth Corps (NYC) programs provides the framework for a discussion of the methodological difficulties of conducting research on disadvantaged groups. However, the report does not deal with the programs and operations of NYC itself. Three problem areas are described: (1) criterion, program, and "moderator" variables; (2) data collection techniques; and (3) interviewing. The complexity of the milieu in which poverty programs operate makes it difficult to judge their effectiveness. Hence, experimentation is needed in establishing new guidelines and methods. Practical suggestions in these areas are offered.

Walther, Regis H. A Study of the Effectiveness of Selected Out-of-School Urban Neighborhood Youth Corps Programs. Program Implications. Washington, D.C.: George Washington University, Social Research Group, 1968. 24p. ED 028 222

"Research results indicate that the Neighborhood Youth Corps (NYC) has been effective in reaching seriously disadvantaged youth and in improving the community and work adjustments of these youths. At the same time, these achievements appear to fall far short of the full potential of the NYC Programs." Among the problems of program and policy which need solutions are the differential "reach" of NYC (more Negro than white, and more female than male enrollees) and the high unemployment rate of ex-enrollees. The findings imply that attention must be given to the ideal program "mix", remedial education, effective use of work assignments, length of time in NYC, job development, and interagency coordination.

Walther, Regis H. A Summary of Retrospective Studies of the Effectiveness of NYC Out-of-School Programs in Four Urban Sites. Washington, D.C.: George Washington University, Social Research Group, 1967. 17p. ED 028 224

Reported is the first phase of a project to evaluate the effectiveness of selected Neighborhood Youth Corps (NYC) programs. Effectiveness was judged by community and work adjustment of enrollees. Experimental and control groups were selected in four cities; samples were only Negroes, with more females than males. Findings from inter-

views with the sample subjects showed that the program was effective but needs improvement in the racial and sex balance of enrollees as well as in the work adjustment objectives of NYC (even among the NYC enrollees unemployment was high). Noted is the need for attention to such policy issues as more effective job development, coordination between various vocational training programs, improved remedial efforts, followup counseling, and the differential needs of enrollees. For subsequent, related research see UD 007 866 and UD 007 867. This document is a summary of ED 020 407.

Weikart, David P. Comparative Study of Three Preschool Curricula. 1969. 18p. ED 042 484

This project was designed to compare three preschool curricula, with staff model and program operation held constant. The curricula were (1) a unit-based curriculum emphasizing the social-emotional development goals of the traditional nursery school, (2) a cognitively-oriented curriculum developed by the Ypsilanti Perry Preschool Project, and (3) the Bereiter-Englemann language training curriculum. All three of these programs have carefully planned daily activities and clearly defined week-by-week goals. The subjects for the study were 3- and 4-year-old functionally retarded disadvantaged children. There was a no-treatment control group. Teachers conducted classrooms and home teaching sessions within the curriculum style they chose. The results of pre- and posttest tests (including the Stanford-Binet and Peabody Picture Vocabulary Test) are highly unusual. The gain scores of the treatment groups are remarkably high (significantly higher than the control group's scores), but there is no significant difference in scores among the three different curricula suggesting that the variables held constant in this experiment (staff model, method of project operation, and specific task orientation of the curricula) are at least as important as curriculum content in producting favorable developmental gains.

Weikart, David P.; and others. Longitudinal Results of the Ypsilanti Perry Preschool Project. Final Report. Volume II of 2 Volumes. Ypsilanti, Mich.: High/Scope Educational Research Foundation: Ypsilante Public Schools, 1970. 189p. ED 044 536

The Ypsilanti Perry Preschool Project was an experiment to assess the longitudinal effects of a two-year preschool program designed to compensate for functional mental retardation found in some children from disadvantaged families. The program consisted of a daily cognitively oriented preschool program and home visits each week to involve mothers in the educative process. The project was initiated in September 1962 and the phase covered in this report was terminated in June 1967. The fifty-eight experimental and sixty-five control black children participating were economically and educationally

disadvantaged. Instruments used to evaluate the project included a variety of intelligence and performance measures, several parental attitude instruments and teacher rating scales. Data were collected on home background, birth complications, cognitive, achievement and socio-emotional variables. Children who participated in the program obtained significantly higher scores than control group children on measures of cognitive ability and achievement and received better teacher ratings on academic, emotional and social development. The significant difference in cognitive ability disappeared by third grade but other gains were maintained. Recommendations and implications for compensatory education are given and sample data collection instruments are included in the appendixes.

Weinberg, Meyer. Desegregation Research: An Appraisal. Bloomington, Ind.: Phi Delta Kappa, Commission on Education and Human Rights, 1970. 460p. ED 040 911

Examined and evaluated are studies which are relevant to the experience of children in desegregated schools. The chapters in the volume are concerned with desegregation and academic achievement, aspirations and self concept, the student in school and in his family, and non-Negro minorities. Also included is a chapter devoted to the "Equal Educational Opportunity Survey" and to "Racial Isolation in the Public Schools." Other sections are devoted to the Negro community and desegregation, and to the anti-desegregation critics.

Wichita Unified School District 259, Kansas. Follow-Through Project, Wichita Unified School District 259; Initial Year, September 1968-May 1969 Evaluation Report. 1969. 156p. ED 039 027

This study obtained data to compare the progress of low income Follow Through pupils with full-year Head Start pupils attending regular kindergarten classes. Five groups of children were compared according to class characteristics, parent participation, teacher interviews, and parent interviews. All groups were administered the Metropolitan Readiness Test and the Wichita Guidance Center Kindergarten Check List. ITPA was given as a pre- and posttest. The home conditions of the two groups of pupils who had full-year Head Start were found to be comparable. A high level of parent involvement in school and school-related activities was indicated. Interview data showed that teachers were enthusiastic about having teacher-aides and noted improvement in pupils in the areas of awareness and self-acceptance, development of interest levels and curiosity, and readiness for more formal instruction. Of the five groups, Follow Through pupils showed the greatest gains in adjustment to school. On a test of readiness, full-year Head Start pupils not in Follow Through were comparable to full-year Head Start pupils in Follow Through. In language development, greater mean gains were made by Follow Through pupils on six out of nine subtests and on the total score. The growth of Follow Through pupils will be studied as they progress through the various grade levels.